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International Economic Policy—

A COLLOQUIUM ON PHASE I
RESEARCH FINDINGS

September 23-24, 1982

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NATIONAL SCIENCE FOUNDATION

Directorate for Scientific, Technological,
and International Affairs

Division of Policy Research and Analysis

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**INTERNATIONAL ECONOMIC POLICY -
A COLLOQUIUM ON PHASE I RESEARCH FINDINGS**

Held September 23-24, 1982

**Edited by Carole Kittl and Alan Rapoport
With the assistance of Carole Grider**

**Division of Policy Research and Analysis
Directorate for Scientific, Technological, and International Affairs
National Science Foundation
Washington, D.C.
April 1983**

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Editors' Note

This volume consists of the prepared papers and proceedings of a colloquium convened by the Division of Policy Research and Analysis of the National Science Foundation. The colloquium was held in Washington, D.C., on September 23 and 24, 1982.

The papers and proceedings are organized around the two main areas of the National Science Foundation's program in international economic policy research--U.S. Options for Modifying the International Monetary System and U.S. Policies in Response to Growing International Trade Competitiveness. Authors of the papers were asked to address four questions about the results of their efforts to plan integrated research programs in international economic policy research. The editors of this volume prepared summaries that cut across the papers in each topical area and provide selected quotes from each author on the major long-term policy issues identified, suggested policy options, research approaches, and strengths and limitations of the methods used to identify issues and options. Drafts of these prepared papers and the summaries were distributed to colloquium attendees in advance. At each session of the colloquium, the authors gave brief presentations based on their prepared papers and general discussion followed.

We would like to thank the following people: Rolf Piekarz for excellent guidance and advice since the conception of our international economic policy research program; Asim Erdilek for monitoring the various groups' efforts during the Phase I grants; Inez Olson for editing and layout advice; and Carole Grider for an outstanding job of editing, coordinating, and organizing the colloquium.

Carole Kittl and Alan Rapoport
Division of Policy Research and Analysis

INTRODUCTORY REMARKS

RICHARD J. GREEN
ASSISTANT DIRECTOR FOR SCIENTIFIC,
TECHNOLOGICAL, AND INTERNATIONAL AFFAIRS
NATIONAL SCIENCE FOUNDATION

It is a pleasure to welcome you to this NSF Colloquium on International Economic Policy Research. The purpose of the colloquium is to present the findings from the first phase of the NSF's research program on international economic policy.

As you know, international economic relationships are directly linked to our domestic welfare. For the foreseeable future, the United States will continue to encounter a number of trends which significantly alter the U.S. foreign trade position and influence domestic monetary conditions. These trends include: the growing importance of foreign trade to U.S. industrial development and employment; sharp fluctuations in exchange rates among the major currencies; and increasing government involvement within all countries in industry and trade. These trends are leading Federal decisionmakers to consider new approaches to domestic and international economic policies.

Some of you were present two years ago when the Foundation held its first colloquium on international economic policy research. At that time, we were beginning to design an experimental research program to address important issues in international economic policy. The motivation for NSF becoming more active in this area is a simple one. For a number of years, the Executive Office of the President, executive branch agencies and the Congress have felt that there was too little long-range thinking in the country on important international economic issues. The experts within the agencies focused on short-term issues and immediate problems. While there were individual investigators in universities and in the nonprofit sector doing longer-term research, there was a lack of coherent, policy-oriented research and analysis programs in this area.

The Foundation became the home for an experimental program in international economic policy research for several reasons. NSF has strong connections with the university and nonprofit research sectors. NSF also has some competence in international economics and experience in working with policy officials on the science and technology aspects of international trade. Finally, NSF is a nonmission agency, so that whatever studies it funds can be broad, cross-cutting, and not involve the particular interests of an agency directly involved in domestic or international economic policymaking.

The Foundation used the results of the first colloquium to prepare a solicitation for research proposals in international economic policy. The solicitation focused on two topics: U.S. policies in response to growing international trade competitiveness and U.S. options for modifying the international monetary system. The intent of NSF's program is to stimulate

a small number of research groups to look at important issues in economic policy on an integrated and coordinated basis from a longer-term perspective. Researchers in these groups are to conduct high-quality, policy-relevant research. They are also expected to be active in consultations with decisionmakers in the executive branch and in the Congress.

The Foundation's program solicitation, issued in early 1981, provided for a two-stage competition. The first stage, which has just been completed, was the planning phase. For that phase, 50 proposals were submitted, and NSF made awards to nine research groups, four in the international monetary area and five in the trade competitiveness area. During the first phase of the program, each group was to identify the major issues and options in international economic policy on which it would like to focus for longer-term study. In the course of the identification of policy issues and options, a number of officials were consulted. I am sure that many of you in the audience were consulted by one or more of our grantees as part of their Phase I activities.

Following the completion of the first stage, the Phase I reports and proposals for the longer-term Phase II research programs were competitively evaluated by a review panel convened by the Foundation. For the second phase, NSF is supporting two groups to carry out integrated research programs over a four-year period. All nine groups did outstanding jobs during Phase I, but a tight budget constrains what we are able to support for Phase II.

As I mentioned earlier, the NSF program in international economic policy research is an experiment. The members of the international economic community and Washington policy officials will play a crucial role in determining the success of our experiment. NSF's object is not simply to support research of high technical quality, but to ensure that work is relevant to the problems facing policymakers. Because research programs are involved, you cannot expect nor will you get quick answers to your immediate problems. We do want our research groups to conduct research on problems likely to face decisionmakers in the intermediate term of five to ten years.

Right now, NSF is supporting two groups for four years. Before the four years are up, NSF will evaluate the success of the experiment. We have not yet made plans about NSF support for these or other groups after four years. But our view is that any continued NSF support of international economic policy research groups would require the strong financial support of other institutions, public or private. Thus, once our experimental program is completed, the future of the research groups is up to the international economic community--both in judging the success of the groups and in financially supporting them if they are judged worthwhile.

I'd like to turn to the colloquium itself. The objective of the colloquium is to provide a forum for the international economic community to learn about the findings and conclusions of the nine individual Phase I efforts. These two sessions will enable you to compare and evaluate the

similarities and differences in the major policy issues and options identified. We also hope to elicit your responses to the findings and observations of the groups.

We have organized the colloquium into two sessions based upon the two topics of the solicitation. The international monetary projects will be covered this afternoon and the trade competitiveness work will be discussed tomorrow morning. Each session will open with brief presentations by the project directors from each research group, followed by a free and open discussion. We look forward to lively debate and interchange of ideas.

SESSION ON U.S. OPTIONS FOR MODIFYING
THE INTERNATIONAL MONETARY SYSTEM

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INTRODUCTION AND SUMMARY

ALAN RAPOPORT

NATIONAL SCIENCE FOUNDATION

The Division of Policy Research and Analysis (PRA) of the National Science Foundation (NSF) is supporting extramural research in international economic policy based on the program solicitation "Study Programs in International Economic Policy Research" (NSF 81-11). Under Phase I of the solicitation, planning and capability demonstration grants of approximately \$75,000 each were awarded in August 1981 in two areas. Five grants were awarded on the topic of "U.S. Policies in Response to Growing International Trade Competitiveness" and four on the the topic "U.S. Options for Modifying the International Monetary System." The winning awards were selected in a competitive evaluation of 50 proposals submitted in response to the program solicitation. The nine Phase I awardees were eligible to compete for two Phase II awards (one on each topic), which would provide support over four years for integrated research programs. The Phase I final reports were received and reviewed in the spring along with the Phase II proposals. For the second phase, NSF is supporting two groups--the National Bureau of Economic Research on the international trade topic and The Brookings Institution on the international monetary topic. All nine groups performed well during Phase I. A tight budget constrains what we are able to support for Phase II.

The primary objective of NSF's research program in international economic policy is to encourage an integrated program of applied research studies to assess specific policy options to assist in the deliberations of the U.S. policy community. These studies are to view policy issues in terms of a five-to ten-year time horizon. These analyses are to rely largely on available analytical techniques, models, theoretical and empirical findings, and existing data. Phase I was intended to allow the competing research groups to plan, develop, and demonstrate their capabilities to carry out the Phase II research effort. Phase I resources were to be used to draw together a team of researchers to initiate a dialogue with members of the international economic policy community, to identify major policy issues and options to be studied in Phase II, to assess what is currently known or knowable, and to determine the models and analytical approaches to be used in Phase II. During Phase II, the two groups which were selected are expected to expand their research efforts, to interact effectively with the policy community in both the performance of research and the transmission of results in a timely and useful manner, and also to occasionally provide responses to specific questions of priority concern.

I. Scope and Purpose

This colloquium is in support of the effort of the Division of Policy Research and Analysis to manage a successful research program in international economic policy. It is also in support of the Division's role to facilitate the dissemination of knowledge resulting from its extramural research program.

The major objective of the colloquium is to provide a forum for the policy and research communities to learn, to compare, and to evaluate the differences and similarities in the findings and conclusions about the major issues and policy options identified in the individual competing Phase I planning and demonstration efforts. Another objective is to disseminate information about issues, performers, and research needs relating to international economic policy to program staff at the NSF, other government agencies, and private foundations which are interested in supporting or using research relevant to international economic policy.

To carry out these objectives for the session on "U.S. Options for Modifying the International Monetary System," the project directors of the four research groups supported under Phase I of NSF's international economic policy research program agreed to write papers reviewing and assessing the findings and conclusions of their Phase I efforts. During the course of that discussion, they were asked to consider, to the degree they were relevant to the Phase I results presented in their reports, papers or proposals, the following four questions:

1. What were the four to six major long-term issues identified during the Phase I effort?
2. What policy options for addressing various aspects of these issues were suggested by evolving conditions and past experience?
3. What was learned about the strengths and limitations of the approaches used to identify major long-term issues and options?
4. On the basis of the group's experience, what types of research and data improvements would be most worthwhile for enhancing our knowledge relevant to formulating policy options?

The four groups participating in Phase I on the international monetary topic and their project directors were:

The Brookings Institution, Ralph Bryant
Massachusetts Institute of Technology, Richard S. Eckaus and
Donald R. Lessard
University of Pennsylvania, Jack Guttentag and Richard Herring
Princeton University, Peter B. Kenen.

II. Findings and Conclusions

This section presents a summary of the four papers organized around the four questions listed in Scope and Purpose. The summary consists of two parts: (1) it presents the central conclusion(s) extracted from the papers with respect to each question; and (2) it presents the findings and observations from individual papers which support and extend the major points made in the conclusion.

1. What were the four to six major long-term issues identified during the Phase I efforts?

There was considerable overlap with respect to the major long-term issues identified by the four research groups although the treatment of these issues in the Phase I efforts and the priorities accorded to them tended to differ among the four groups. Five issues appeared to be emphasized in one form or

another. These were: the role and evolution of international organizations, particularly the International Monetary Fund; the supervision and regulation of international banking; exchange rate determination and foreign exchange markets; the role of the dollar and other reserve assets in the international monetary system; and macroeconomic interactions between the United States and other nations. There were several other issues noted in one or more papers. These included the roles of the less-developed countries and the oil-exporting nations in the international financial system, east-west financial relations, and international financial sanctions. Two of the Phase I efforts were quite broad in their coverage, exploring most, if not all, of the issues mentioned above. Another Phase I effort confined its exploratory work to two aspects of the international monetary system--the changing role of the dollar as an international currency and threats to the stability of Eurocurrency markets. The fourth group directed their Phase I work principally to public policy towards international banking. However, all the groups developed a broad agenda for research in the second phase.

"The research undertaken and proposed fell naturally into three categories of U.S. policy concern: (1) exchange rate determination and the international monetary system; (2) the character and consequences of changes in international financial integration; and (3) aspects of the problems of developing countries related to international monetary and financial issues."

(Eckaus and Lessard, p. I-22)

"Exchange rate determination and the international monetary system. A major issue in the world economy is the extent to which exchange rates appear to move out of line with the fundamental economic values which they should mediate. . . . After nine years' experience with a floating exchange rate system, it is hard to deny that the results have been disappointing. Although world trade has not been perceptibly impeded by floating rates and world capital markets have probably been better integrated in the 1970s than before, exchange rates--and also relative prices, i.e., "real" exchange rates--have been highly volatile. At the same time, macroeconomic independence has not followed from floating rates. Finally, there is growing worry that the volatility of floating rates may threaten the viability of the dollar's role as international money, with resulting disruptive effects."

(Eckaus and Lessard, pp. I-23,24)

"The international financial system. A major factor increasing the concern with the interdependence of monetary, fiscal, and exchange rate policies of various countries is the increasing international integration of financial markets. From the viewpoint of national policymakers, such integration is often viewed as a constraint on national policies, and governments frequently take steps to limit the use of their currencies in offshore markets and limit access to their domestic capital markets. Further, national securities and banking laws often include prudential regulations which, in effect, limit international linkages. However, financial theory suggests that the integration of financial markets also conveys major benefits in terms of risk spreading, increased competitiveness, and increased stability in the availability of funds. Thus, steps taken in pursuit of national stabilization goals may impose a cost in terms of reduced international financial integration. Further,

given the flexibility of banks, firms, and governments operating in international financial markets, it is not clear that such steps can be successful without creating major distortions. . . . A second major change in the international financial system is the declining role of the dollar in international trade and, hence, the changing relationship between exchange rate movements and relative price changes which affect the competitiveness of U.S. firms and the costs faced by U.S. consumers." (Eckaus and Lessard, pp. I-27,28)

"Aspects of the international monetary and financial system particularly related to developing countries. While developing countries represent only a small fraction of real and financial activity in the world, they often play a relatively large role in policy issues relating to the international financial system. . . . Research in stage I . . . suggested that a major issue facing the players in the international financial system was whether international lenders, primarily commercial banks, were overly exposed to possible defaults by sovereign borrowers, especially less-developed countries (LDC's), and whether the LDC's were overly dependent on particular sources of international funds. . . . Conditionality, the terms imposed by international lending agencies on borrowing countries as qualifications for the granting of credit, is a matter of national as well as international concern. . . . Although official aid flows represent a small fraction of all foreign borrowings by the LDC's, it is generally believed that their role is crucial." (Eckaus and Lessard, pp. I-30,31,32,33)

"In our proposal for Phase I, we called attention to three recent changes in the character of the international monetary system. . . . First, there has been a significant increase in the number and variety of actors. . . . Second, additional currencies became important for the system. . . . Third, the choice between financing and adjustment, which used to be influenced heavily by the supply of reserves available to deficit countries, is influenced more heavily today by access to credit in international financial markets. . . . The first observation led us to suggest that research should focus on the functioning of the present system and ways of improving it, rather than a grand design for reform of the system. . . . The second and third observations led us to propose exploratory work on two aspects of the system: (1) The changing role of the dollar as an international currency, emphasizing its role as a reserve currency. . . . (2) Threats to the stability of the Eurocurrency markets, their implications for prudential regulation, and the roles of the central banks as lenders of last resort." (Kenen, pp. I-69,70)

"Basing its choices on work done in Phase I, on staff discussions, and on consultations with members of the policy community, the research group identified three sets of issues likely to pose major policy problems for the United States: (1) The management of risk and preservation of liquidity in the international banking system. (2) The international effects of domestic macroeconomic policies and their implications for the conduct of those policies. (3) The role and evolution of the International Monetary Fund in light of developments affecting the reserve system and balance-of-payments adjustment process. If asked to make my own choices, I would pick these same issues but would add a

fourth. It may be time to consider modifications in the exchange-rate regime aimed at reducing short-term fluctuations in nominal and real rates. . . . The second and third subjects would have extended the group's work. We chose the second because we believe that the international ramifications of U.S. policies have become increasingly important for the behavior of the U.S. economy. Key policymakers are sensitive to them, but many members of the policy community continue to regard the United States as a closed economy when discussing monetary and fiscal policies. We chose the third because the Fund and its members must make far-reaching decisions concerning Fund quotas and borrowing, the SDR, and other matters that will affect the future of the institution. The United States must approach them consistently, asking how they will affect the role of the Fund in the international system and the role of the United States within the Fund itself."
(Kenen, pp. I-83,84)

"Our original Phase I proposal, prepared in the spring of 1981, identified seven broad areas in which the U.S. government would need to reevaluate its international financial policies and for which we would try to delineate issues and alternative policy options. Those seven areas were: (1) Institutional evolutions of international organizations; (2) Exchange-rate variability and exchange-market intervention; (3) Reserve-asset characteristics of the international monetary system; (4) Macroeconomic interactions between the U.S. economy and other national economies; (5) Roles of the oil-exporting nations in world financial flows and payments imbalances; (6) Supervision and regulation of international activities of private financial institutions; [and] (7) The international monetary system and the New International Economic Order. As our work progressed, we became increasingly convinced of the current and prospective importance of interactions between the Western economies and the Soviet bloc nations. That in turn led us to add an eighth area--East-West financial relations--to our list of functional topics to be surveyed in the Phase I work."
(Bryant, p. I-95)

"Several themes surfaced repeatedly in our Phase I consultations with the policy community and in our in-house attempts to refine reactions to what we heard."
(Bryant, p. I-97)

"Increasing Openness of the U.S. Economy. The economic links between the United States and other nations are currently growing much more rapidly than the American economy itself. . . . [T]he trend toward greater interdependence is one of the key economic facts characterizing the world economy as it begins the final two decades of the 20th century. . . . This growing interdependence, not least the financial interdependence, is a major constraint on the formulation of U.S. economic policy. The constraint, moreover, applies to "domestic" policies, not merely the policies directly applicable to international transactions. . . . [I]n an interdependent world economy, the U.S. government can act independently to adjust its own policy instruments but cannot be assured of close control over its own economy. Indeed, the contrast between de jure sovereignty over national policy instruments and de facto control of national ultimate targets is the central problem confronting policy-

makers in any single open economy. . . . [C]onstraints from interdependence will be a major factor determining the evolution of the American economy in the 1980's. . . . U.S. policymakers in the 1980's will have to be more and more concerned with the international aspects of their policy decisions."

(Bryant, pp. I-97,98,99)

"Increasing Pluralism in the World Polity and Economy. The second underlying theme germane to all the functional areas surveyed in our Phase I work is the phenomenon of "increasing pluralism" in the structure of the world polity and economy. Increasing pluralism involves an expansion in the number of government decisionmaking units in the world, a greater diffusion of political and economic power among the existing units, or both at the same time. . . . More fundamentally, however, increasing pluralism has meant the development of a situation in which one nation, or a mere handful of nations, no longer effectively dominates international decisionmaking. . . . The trend toward greater pluralism means that a significantly larger number of nations must be involved in policy decisions affecting the world polity and economy. . . . The difficulties for collective decisionmaking arising from a large number of participating nations are exacerbated by the tendency of most nations to perceive themselves as "small" and to assume that their behavior does not significantly affect the rest of the world."

(Bryant, pp. I-99,100)

"Increasing Importance of International Organizations. [P]ressures have gradually but perceptibly increased to strengthen international organizations as a way of promoting intergovernmental cooperation. The willingness to delegate political authority to international institutions is still very limited. But as interdependence and pluralism have both increased, the number and seriousness of "public-goods" problems of an international scale have also grown. . . . The theme of gradually evolving international organizations is especially germane for thinking about the "international monetary system." In particular, the International Monetary Fund (IMF) and the World Bank already have functions and responsibilities that touch broadly on many U.S. interests. U.S. policies about the substantive issues handled by these institutions cannot help but be policies about the evolution of the institutions themselves, if only inadvertently."

(Bryant, p. I-100)

"Analytical Uncertainty about Functioning of the World Economy. Most thoughtful observers of the world economy would probably agree with our identification of increasing interdependence, increasing pluralism, and gradually intensifying pressures for the strengthening of international institutions as three basic characteristics of the world environment in the 1980's. We now want to stress a fourth, less familiar theme: the extreme inadequacy of our understanding of how the world economy functions in the face of these phenomena."

(Bryant, p. I-101)

"The supervisory and regulatory environment within which banks and other private financial institutions operate in the United States differs in important ways from the regulatory environments in other major nations

and in offshore banking centers. The existence of these disparities leads to competitive inequities between the banking systems in the United States and other countries. These in turn give significant incentives to banks to locate their borrowing and lending activities in those countries with the least stringent regulations and supervision. . . . [T]he traditional distinction between domestic and international banking is becoming more and more elusive. Scarcely a single regulatory issue that formerly was viewed solely as a domestic matter can now be intelligently discussed without reference to international banking and the regulatory environments in foreign countries. . . . The detailed regulatory issues at stake here are subtle. They seldom cause policy "crises." At present they are not attracting attention outside the financial community itself. Even a majority of the policymakers we consulted during Phase I did not place these issues high on their list of priorities. It is nonetheless our judgment that this class of problems is gradually growing in importance and could at some point appear as a priority issue on the desks of U.S. policymakers." (Bryant, pp. I-109,110)

"[M]ost of the substantive results from Phase I of our project relate to public policy toward international banking. Our efforts regarding other topics essential to a comprehensive consideration of options for modifying the international financial system--international reserve and foreign exchange arrangements, the role of international financial agencies, financial policies toward developing countries and international financial sanctions--were directed mainly toward developing a research team and an agenda for Phase II." (Guttentag and Herring, p. I-35)

"Issue: To what extent is the interbank market a source of vulnerability in the international financial system? If any type of crisis scenario develops in international banking, a serious danger exists that it will spread quickly from one bank to another through the interbank market. . . . Thus, despite the development of better internal information systems on exposure to individual banks since the Herstatt incident, the interbank market is still a point of significant vulnerability. The recent G-30 survey of the attitudes of bankers indicated that "unavailable interbank funds" ranked second only to "default by a major country borrower" as a risk to international banks. Furthermore, even the most effective of the bank regulators has barely begun to monitor the way international banks manage their liquidity positions." (Guttentag and Herring, pp. I-36,37)

"Issue: To what extent does the indebtedness of developing countries to banks increase the vulnerability of the international financial system? Default by a major borrowing country is the principal spectre that haunts international banks in the 1980's. . . . Useful distinctions have been drawn between assessing LDCs' capacity to pay and assessing their willingness to pay, but more work needs to be done of measures of the willingness to pay. And while LDC's showed remarkable resiliency in coping with the oil price increase of 1974-75 and 1979, their ability to ride out another shock of comparable magnitude is not at all clear." (Guttentag and Herring, p. I-38)

"Issue: To what extent does the corporate structure of international banking activities contribute to the vulnerability of the international system? Robert Mundheim and other lawyers among the bankers and government officials that we interviewed emphasized the importance of the responsibility of international banks for the debts of foreign subsidiaries and affiliates as a factor bearing on the vulnerability of the system. Until now this topic has been virtually ignored by economists."

(Guttentag and Herring, p. I-38)

"Issue: To what extent do declining capital positions in major banks contribute to the vulnerability of the international financial system? In the last ten years there has been intensified concern over and research on bank capital. This reflects two major developments: (1) capital ratios have fallen to lower levels than ever before--especially for the largest banks; and (2) for the first time since the 1930's, banks of very substantial size have failed."

(Guttentag and Herring, p. I-40)

"Issue: What hypotheses can explain the behavior of banks in international markets? In the recent G-30 survey of international banks, about 90 percent expressed the view that international risks had increased over the previous five years, and an equal number felt that risks would increase further in the next five years. Yet more than 80 percent saw their own international lending growing more rapidly than their domestic lending over the next five years!"

(Guttentag and Herring, p. I-41)

"Issue: To what extent has the growth of international banking vitiated macroeconomic control? The growth of the Eurodollar market has raised a host of questions about its impact on the U.S. economy and the relationship between the external and internal dollar banking systems. . . . [I]t is evident that the problem that the Eurocurrency market poses for monetary control is not different in kind from that which the monetary authorities have long faced in coping with the growth of nonbank financial intermediaries. Because the monetary authorities are unable to control substitution among assets, they may experience difficulties in meeting intermediate monetary targets and in predicting the consequences of their policy actions."

(Guttentag and Herring, pp. I-42,43)

2. What policy options for addressing various aspects of these issues were suggested by evolving conditions and past experience?

Policy options for addressing aspects of the major issues identified were discussed explicitly only in the paper dealing with public policy towards international banking. Another paper had some discussion of policy options incorporated in its section on policy issues most deserving of further research. A third paper focused almost exclusively on research issues associated with long-term issues rather than on the identification of policy options which might address those issues. The author of the fourth paper felt that the delineation of specific policy options could only take place in Phase II.

"The key terms in the title of the project gave us trouble from the start. What "options" should we consider? Should we look only at those that the United States can exercise unilaterally or should we consider options that require negotiations and joint action? If multilateral options are included, should we attempt to assess their acceptability to other governments? What is meant by "modifying" the monetary system? Should we concentrate on grand designs for long-run reform, on piecemeal improvements in present arrangements, or on damage limitation? Does the "monetary system" mean the formal framework defined by the Articles of Agreement of the International Monetary Fund or does it include the totality of arrangements that govern the activities of banks, foreign-exchange dealers, and so on?"

(Kenen, p. I-89)

"We indicated that research in Phase I would gather information and identify opportunities for further work. The delineation of policy options could take place only in Phase II, with the help of comments from the policy community regarding our assessments of trends and issues, the economic interests of the United States, and the feasibility of various options."

(Kenen, p. I-70)

"To further U.S. interests in international economic policy, therefore, the United States needs to formulate explicit policies for the desired evolutions of these [international] organizations and to try to encourage those evolutions rather than others."

"It is a basic issue for U.S. policymakers to decide how much and what types of these consultative activities [about the interaction of national macroeconomic policies] are desirable for the United States. Given that decision, a closely related issue is to decide which institution (or set of institutions) is the most useful channel for such activities."

(Bryant, p. I-102)

"To make sound policy decisions about intervening or not intervening in exchange markets, therefore, U.S. policymakers must be able to integrate intervention decisions with decisions about domestic monetary and fiscal policies, acknowledging the complex links between exchange-rate movements and domestic policy actions."

(Bryant, p. I-105)

"U.S. policymakers must somehow adjust U.S. fiscal and monetary policies in the light of their (uncertain) knowledge that some of the effects of U.S. policy actions leak abroad and some of the effects of policy actions and nonpolicy disturbances originating abroad spill over into the U.S. economy."

(Bryant, p. I-106)

"Policy Options: Institutional Machinery for Preventing or Mitigating the Effects of Financial Crises"

"Government regulation. Bank regulators have not been able to check the increasing risk exposure of international banks, partly because the internationalization of bank regulation has not kept pace with the

internationalization of banking."
(Guttentag and Herring, p. I-43)

"Lender-of-last-resort (LLR) facilities. At a Roundtable on Public Policy Toward the Euro-markets held at the Wharton School in 1980, several participants expressed concern regarding the adequacy of existing LLR arrangements for international banks. Our subsequent work has indicated that this concern is well-founded. National LLR's are inherently ill-suited to providing LLR assistance to international banks."
(Guttentag and Herring, p. I-44)

"Institutional arrangements for debt renegotiation. Working Paper 11 documents serious inefficiencies in existing institutional arrangements for handling payment difficulties of foreign borrowers. Because of the prevailing "short leash" approach to controlling risks in international banking, maturities are often shorter than those that maximize borrowers' ability to repay. The result is more frequent balance-of-payments problems which often lead to debt problems. Debt problems, furthermore, often reach the crisis stage before anything is done about them. To some extent this reflects bargaining and jockeying for position among banks, banks' expectations that the troubled country should meet the problem by changing its policies, and the country's reluctance to change its policies except under severe pressure."
(Guttentag and Herring, p. I-46)

"Disclosure of country exposure. Working Paper 7 applies the framework for formulating disclosure policy developed in Working Paper 21 to the specific case of data on country risk exposure. Supervisory authorities the world over have so far rejected disclosure of such information to the market, and have also rejected the imposition of quantitative limits on country exposure. Yet from all indications, they have not been able to constrain increasing concentrations of country risk exposure among the largest international banks. Among the international banks surveyed in the recent G-30 study, 'default by a major country borrower' was viewed as the single most important threat 'to the smooth functioning of the international financial system.'

"Hence, there may be a case for letting the market play a larger role in regulating exposure to country risk. Disclosure of country exposure data on individual banks would permit bank creditors to monitor such risks more effectively. While there are some valid concerns about such a policy (and some that are not so valid), a major positive factor that banks and regulators tend to overlook is that the disclosure of country exposure data to the market would stimulate a search for methods to share exposure more broadly."
(Guttentag and Herring, pp. I-46,47)

"Risk exposure and loan valuation. While much remains to be learned, there are strong indications that international banks tend to assume excessive risk exposure. . . . In light of such pressures, it may be worth considering a drastic change in regulatory procedures that would

involve periodically marking all foreign loans to market, based on secondary market quotations. No harmonization of divergent country laws would be necessary, only an agreement among the regulators.

"Over the long run, adoption of this procedure could provide two major benefits, although there would be enormous transitional problems as well. First, it could cause a sharp upward reassessment of the risk in foreign lending and a corresponding rise in yield spreads on new loans. . . . Second, over the long run, debt crises might arise less frequently." (Guttentag and Herring, pp. I-47,48)

3. What was learned about the strengths and limitations of the approaches used to identify major long-term issues and options?

Most of the groups agreed that frequent interaction with the international economic policy community was an important factor both in identifying major policy issues and in ensuring success of the overall research program. Yet, at the same time it was noted that the perspective of researchers who were not directly involved in the policymaking process was often necessary to identify important long-term issues and also unavoidable since academics themselves tend to have research priorities. The diversity of the policy community's interests, the heterogeneity of the community itself, and the immediacy of the many issues the community is faced with all suggest that a blending of the views of policymakers and researchers is essential. Not only will the choice of issues be influenced by the manner in which the appropriate policy community is identified but so will the selection of research approaches. One group felt that the research program should be chiefly directed towards providing a deeper understanding of basic issues. Other groups acknowledged that basic gaps in knowledge were important and should not be deemphasized, but did not make basic research the main ingredient of their research agenda. The question of how work should be divided between research groups within the government and those that work outside it is one that is yet to be resolved, as is the question of what actually constitutes international economic policy research.

"The Brookings researchers engaged in the Phase I project were convinced that research cannot be helpful to policymakers unless it confronts problems as they actually arise in a policy situation. . . . [T]herefore, we stressed individual meetings with a variety of policymakers to learn as much as we could about their current concerns and perceptions. . . . Our consultations with policymakers were the single most important ingredient in shaping our thinking, our further reading, and our development of the Phase II proposal." (Bryant, pp. I-96,97)

"Members of the M.I.T. group consulted with U.S. Government officials as well as key individuals in private financial institutions for their assistance in identifying specific policy issues among the general questions related to the international monetary and financial system. It is the opinion of the group that current preoccupations of policymakers often identify essential difficulties. However, the group also believes that the perspectives of researchers not involved in policymaking and administration are often necessary to identify important issues which

will arise in the future. Therefore, the group did not restrict itself to the most immediate international monetary and financial problems faced by the United States."

(Eckaus and Lessard, p. I-21)

"We had another question: To whom should we address our results? The policy community is heterogeneous. It includes staff economists who are thoroughly conversant with technical issues and are themselves engaged in research on international monetary problems. It includes senior officials in the executive branch and Members of Congress who need to know the issues and options but should not be subjected to the jargon in which economists converse. The difficulty goes beyond language. If talking primarily to other economists, we should presumably address issues and options broadly and direct careful attention to the assumptions and caveats that always qualify research results. If talking primarily to senior government officials, we should presumably concentrate on specific policy initiatives."

(Kenen, p. I-89)

"In conducting a wide range of interviews, we found that where one stands on issues concerning international banking often depends on where one sits. Issues that some members of the policy community regard as settled and of little importance strike others as open to dispute and of crucial importance. Our experience taught us that it is important to diversify interviews across residents of different countries, across institutions and even within institutions. Not only was this a useful methodological lesson regarding strategies for conducting interviews, but it also raised an important substantive issue. The diversity of opinion leads us to wonder about the extent to which various actors in the international financial system hold inconsistent expectations about each other's behavior in the event of a crisis and the implications of these inconsistencies for the vulnerability of the international financial system."

(Guttentag and Herring, p. I-49)

"[O]ur research cannot be fully responsive to the priorities of U.S. policy without continued feedback from the ultimate consumers themselves. We accordingly gave considerable thought to mechanisms that would facilitate this feedback without imposing major additional demands on policymakers who are already heavily burdened. . . . We plan to listen carefully to policymakers, to be influenced very strongly by their perceptions, yet in the end to make decisions by blending their views with our own judgments about the long-run problems of fundamental importance."

(Bryant, pp. I-114, 115)

"The broad scope and great size of the project posed another problem. Our own choice of issues--those that we described as most important from the standpoint of the policy community--was necessarily influenced by our interests and experience. Although our Phase II Proposal made room for visitors to complement and supplement the staff at Princeton, we had to rely mainly on that staff. One critic of our Phase II Proposal said that the work we planned was work we would do anyway. That is not strictly true. Some will be done in one form or another. Some will not. The

criticism, however, probably derives from the problem that we faced. Academics have their own research priorities. These are hard to modify, even with the promise of long-term research support. We had therefore to compromise between the intrinsic importance of issues and the willingness of staff to work on them.

"My final comment is related to this one and to one made earlier. Much more thought should be devoted to the appropriate division of labor between research groups like our own and those within the government."
(Kenen, p. I-89)

"The design of an agenda responsive to the needs of policymakers encounters a difficult trade-off. At an extreme, a narrow agenda concentrating in a very few functional areas runs the risk of being unresponsive to many policy needs. At the other extreme, research done under a very broad agenda (covering all the major functional areas of international financial policy) runs the opposite risk of being superficial."

(Bryant, p. I-115)

"There are a number of alternative ways of subdividing and categorizing current and prospective international monetary and financial problems and a substantial amount of literature already in existence explaining in general terms why they are problems and why they are all interdependent. At M.I.T. we attempted to move beyond the obvious to define specific aspects of the general policy issues which met the criteria of policy significance, research feasibility and interest of the researchers."
(Eckaus and Lessard, p. I-21)

"The strategy of the M.I.T. group was based on the view that policy-related research should provide a deeper understanding of basic issues. This approach is especially important with respect to the international monetary and financial system, given the complexity of the issues involved and the limited understanding of the workings of the system by both academic researchers and policy analysts. Moreover, the quality of the individual, more narrowly defined research activities would be substantially improved by embedding them in a context which reflects the interdependence between the various aspects of international monetary and financial problems."
(Eckaus and Lessard, p. I-21)

"The consensus on research methodology of the prominent theorists and econometricians who participated in this study at M.I.T. was that no attempt should be made in the design of the individual studies to impose a single set of models or conceptual approaches. The understanding of issues involved has not reached the point at which even a substantial subset of the problems proposed for investigation can be brought within the scope of a single methodological approach. Neither can the relevant empirical analysis be approached in a single way."
(Eckaus and Lessard, p. I-23)

"To state the obvious: if the foundations for the analyses supporting policy choices are weak, the policy choices themselves cannot be made with any confidence. The inability to cope correctly with the

descriptive, analytical aspects of decisions vitiates the normative aspects no matter how skillfully the normative aspects are handled. . . . [E]conomic knowledge is especially weak and uncertain about the cross-border transmission of economic forces. This fact, moreover, has important implications for policy choices--and research about those policy choices. It is the beginning of wisdom about the conduct of policy to acknowledge when an inadequate basis exists for a sound decision. And it would be an especially great disservice for a research group trying to help policymakers to de-emphasize the basic gaps in our knowledge or to pretend that analysis of international economic policy issues can be cogent and successful before more progress is made in remedying the gaps."

(Bryant, pp. I-101,102)

"Policy needs and priorities necessarily adapt over time in response to altered circumstances. If research on international economic policy issues is to be genuinely helpful to policymakers, it too must be capable of flexible adaptation. . . . This approach to research design is, in essence, identical to that involved in a sound discretionary approach to policymaking itself. Decisions are shaped by looking out over an extended horizon. Yet flexibility is retained to revise longer-run plans as new information is received that alters judgments about future needs and priorities."

(Bryant, pp. I-113,114)

4. On the basis of the groups' experiences, what types of research and data improvements would be most worthwhile for enhancing our knowledge relevant to formulating policy options?

The four papers appear to convey the feeling that there is a limited base of knowledge available which would help in formulating specific policy options addressing most of the major long-term issues identified by the research groups and that much remains to be done. For the issue concerning the evolution of international organizations, research was proposed on the role of the IMF in financing payments imbalances (including its size, financing and use of conditionality) and on its strengths and weaknesses as a forum for consultative activities among major industrial countries. With regard to international banking, most of the research suggested was directed at obtaining information about and a more thorough understanding of the international banking system in order to reduce the probability of crises and improve contingency planning. Research relating to the functioning of foreign exchange markets focused on the scope existing for official intervention, the effects of alternative types of intervention, and the costs and benefits of medium-term exchange rate cycles. Research put forth dealing with the role of the dollar and other reserve assets in the international monetary system concentrated on the evolution of the reserve system and on ways to determine the global adequacy of reserves. The issue of macroeconomic interactions appeared to be the one where there was the most concern about our ignorance and the lack of models and adequate data for undertaking analyses for improving our understanding.

"We began the project by attempting to develop an analytic framework that would be useful for investigating aspects of the international banking system that are vulnerable to crisis. Our framework emphasizes shocks

and the capacity to withstand shocks. . . . A "crisis scenario" is a sequence of events over a relatively short time that includes at least one major shock and may culminate in a financial crisis. The more we know about crisis scenarios, the better prepared we are to avoid crises. . . . We propose that a more detailed analysis of crisis scenarios should be made to cover insolvency scenarios arising from debt repudiation by one or several major borrowers, a sudden cessation of lending by major international banks, a marked curtailment in oil production, a severe disruption in foreign exchange markets, a serious trade war involving major countries, and an operational breakdown in the international payments clearing system."

(Guttentag and Herring, pp. I-35,36)

"Issue: To what extent is the interbank market a source of vulnerability in the international financial system? We propose that a set of case studies should be conducted aimed at the development of a methodology for monitoring the liquidity positions of international banks."

(Guttentag and Herring, pp. I-36,38)

"Issue: To what extent does the indebtedness of developing countries to banks increase the vulnerability of the international financial system? In our view, the vulnerability of LDC's to major shocks is a high priority issue that should be studied intensively using existing econometric models of major developing countries in conjunction with international linkage systems."

(Guttentag and Herring, p. I-38)

"Issue: To what extent does the corporate structure of international banking activities contribute to the vulnerability of the international system? Since legal systems determining liability can be changed, this is an important question that warrants further study."

(Guttentag and Herring, pp. I-38,39)

"Issue: To what extent do declining capital positions in major banks contribute to the vulnerability of the international financial system? It is thus surprising that while the problem of bank capital adequacy and regulation has been extensively studied by economists, the international dimensions of the problems have been largely overlooked."

(Guttentag and Herring, p. I-40)

"Issue: What hypotheses can explain the behavior of banks in international markets? We propose to explore this issue with case studies of loan and deposit decisionmaking at selected international banks."

(Guttentag and Herring, pp. I-41,42)

"Issue: To what extent has the growth of international banking vitiated macroeconomic control? [A] better understanding of the problems that the Eurocurrency market causes for monetary control and exchange stability depends on better knowledge about the substitutability between Eurodollar and Euromark deposits, and substitutability between Eurodeposits and comparable national deposits."

(Guttentag and Herring, pp. I-42,43)

"[W]e argue more broadly that inadequate disclosure of information regarding the financial condition of banks may increase the vulnerability of the international financial system to a crisis by undermining the ability of bank creditors to monitor the risk exposure of banks . . . Although proposals to improve the information base are noncontroversial, there remains the awkward question of identifying which international organization should have the responsibility for integrating the existing sources of information and filling in the gaps that result from differing institutional purposes. Nor should one underestimate the difficulty in collecting comparable, meaningful data from thousands of institutions that have located in hundreds of political jurisdictions, sometimes for the purpose of avoiding disclosure of banking data." (Guttentag and Herring, pp. I-49,50)

"Our proposals for research on this subject [international banking] took a rather long-run view. They dealt with ways to reduce the probability of crises and with contingency planning. One of us, for example, had developed a model designed to show formally how banks assimilate information, including information about a "catastrophe" (an event such as a default or bank failure whose probability cannot be measured by examining recent experience). He planned to extend his work--to show how the functioning of capital markets can be improved by increasing the flow of information about borrowers and to develop "crisis scenarios" helpful in designing policy responses. . . . Several questions arise in [the] connection [of lender-of-last-resort facilities]: (1) Does every bank have access to a lender of last resort? . . . (2) Does every central bank have access to the funds it may require? . . . (3) Do central banks agree about the nature of the problem? Can they draw the distinction that is emphasized so often between "liquidity" and "solvency" problems? . . . Recent events have underscored the importance of these questions. Those same events, however, convince me that we should have taken a more urgent view of certain problems and added others to our list." (Kenen, pp. I-84,85)

"In the standard literature on economic policies for open economies, exchange rates are "assigned" to external balance and monetary policies to internal balance. When capital mobility is high, however, this assignment is unstable and should be modified. These notions animate recent work on the United Kingdom, where the exchange-rate appreciation caused by domestic policies has been the cutting edge of those policies. They may likewise apply to the United States, where the appreciation of the dollar since 1980 has probably contributed significantly to the domestic effects of monetary policy. . . . Other forces influence exchange rates. Many observers have criticized and tried to explain the short-term volatility of floating rates. In recent Congressional testimony, however, three witnesses (Bergsten, Dornbusch, and Kenen) drew attention to another problem--the tendency for nominal and real rates to trace a medium-term cycle. . . . If there is a medium-term cycle rooted in fundamental behavioral relationships, the costs and benefits of floating exchange rates should be reassessed. The costs of short-term volatility may not be high, but the costs of medium-term oscillations may be much larger. They can affect economic activity. They can aggravate protectionism and destabilize trade policies." (Kenen, pp. I-85,86)

"The institutional agenda of the IMF will call for a number of policy decisions during the next several years. Our proposal focused on two sets of issues. First, we planned work on the role of the Fund in the financing of imbalances and, therefore, the size and financing of the Fund itself. . . . Second, we planned work on the evolution of the reserve system . . . Some of these questions are being studied in the Fund, but they also have to be studied from the standpoint of the United States."

(Kenen, pp. I-87,88)

"I have already listed some of my reasons for raising this issue [modifications in the exchange rate regime aimed at reducing short term fluctuations in nominal and real rates]. . . . I have likewise listed one of the questions that must be considered before the issue can be decided. How much can be achieved by official intervention? But other questions must be answered too. . . . What sort of rules should be used to reduce exchange rate fluctuations? . . . What methods should be used to keep exchange rates inside the bands set by the new rules? . . . How does one compare, let alone coordinate, policies based on money-supply targets with those based on other targets? Should targets be standardized or abandoned completely?"

(Kenen, p. I-88)

"In our analyses of the functional areas, we repeatedly encountered issues or problems that could not be adequately clarified given our present understanding of how economic forces are transmitted into and out of the United States across our borders."

(Bryant, p. I-101)

"The Phase II projects we have suggested for research in this area would evaluate the relative strengths and weaknesses of the various [international] institutions and clarify some of the benefits and disadvantages to the United States of channeling consultative activity through them. Interactions of nations' economic policies raise fundamental issues about noncooperative decisionmaking and potential benefits from collective action. Some of these issues are not well understood even at the level of theory."

(Bryant, p. I-103)

"In our view, two types of deficiencies in knowledge are especially worthy of future research.

"First, far too little is known about the costs and benefits to the United States of medium-run swings in dollar exchange rates such as the extended weakness in 1977-78 and the pronounced strength in 1981-82. . . . The second important gap in knowledge is economists' uncertainty about how much scope exists for official exchange-market intervention. . . . Substantial doubt also exists about the time pattern of effects of intervention; it is possible that exchange rates and other variables can be significantly affected in the short run but that the effects dissipate over a medium or long run. . . . Because of these two gaps in analytical knowledge, many policy decisions confronting the U.S. government must be made in relative ignorance."

(Bryant, p. I-104)

"To make judgments about the global adequacy (excess or shortage) of reserves under current exchange-rate arrangements and the current and prospective circumstances of the world economy, it is necessary as a logical precondition to be able correctly to analyze the "demand for reserves" by individual nations and groupings of nations. Because of the variety of world macroeconomic outcomes that can be imagined for the 1980's, because of the need to consider nations' demands for reserve assets jointly with their external-borrowing policies, and because of the analytical gaps in knowledge about exchange-rate variability and exchange-market intervention, this analysis is extremely difficult." (Bryant, pp. I-105,106)

"From that review [what economists currently know about the cross-border transmission of policy actions and non policy disturbances] and from our Phase I consultation we are led to several discouraging conclusions. Even in theory, very basic gaps in knowledge exist. . . . At the level of quantitative knowledge, which is the level that is required for sound policy decisions, the degree of ignorance is appallingly high. Not many empirical models exist that are capable, in even a rudimentary way, of analyzing two-way interactions between the U.S. economy and the rest of the world. . . . Perhaps most discouraging of all, the data base available for conducting a systematic analysis of global macroeconomic developments is inadequate." (Bryant, p. I-107)

"Exchange rate determination and the international monetary system. The research undertaken and proposed may usefully be placed under three headings. First is a reconsideration of the determinants of nominal and especially real exchange rates. . . . Second is a rethinking of macroeconomic policy under floating exchange rates, with particular attention to the scope for independent national monetary policies, the transmission of monetary policy to other countries, and the macroeconomic implications of speculation. Finally, the implications of floating rates for the international financial system, especially the international role of the dollar and the effects of alternative types of intervention, require consideration. . . . The growing doubt about the tendency of exchange rates to remain close to fundamentals raises serious questions about the macroeconomic virtues of floating exchange rates. . . . A closely related issue is the transmission of economic policy. Traditionally floating exchange rates were expected to provide countries with at least approximate insulation from each other's macroeconomics policies. This presumption looks less and less like it is true, however." (Eckaus and Lessard, pp. I-24,25)

"The international financial system. The international financial system has been changing rapidly in recent years and there are many aspects of it, related closely to international monetary arrangements, of which there is only limited understanding. . . . The research identified seven important steps which must be accomplished in the study of international financial integration: (1) identification, description, and analyses of existing explicit or implicit barriers to cross-border financial transactions including: (a) currency volatility, (b) credit and exchange

controls, (c) political risks, (d) taxes, and (e) other national regulations; (2) modeling of the impacts of the effect of various sets of barriers on financial market equilibrium; (3) empirical verification of the effects of various barriers on capital market equilibrium through case studies of particular events, tests of arbitrage relationships, comparisons of actual financial holdings with the implications of equilibrium models incorporating various barriers and, if possible, tests of overall capital market equilibrium; (4) analysis of the distribution of gains among firms, investors, and financial intermediaries in various countries resulting from changes in barriers identified in (1) and analyzed in (2); (5) analyses and testing of specific responses of non-financial corporations and financial institutions to various financial market interventions in order to determine both the efficiency and distributional effects of various interventions; (6) analyses of the implications for U.S. financial markets and regulatory policies of the major role played by U.S. banks in cross-border lending; (7) analyses and empirical evaluation of the role of financial linkages in transmitting economic shocks."

(Eckaus and Lessard, pp. I-27,28)

"Aspects of the international monetary and financial system particularly relating to developing countries. This group found that surprisingly little was known about the determinants of a country's debt-servicing capacity or about the stresses imposed on the international financial system and particular borrowers by recurrent crises. . . . It became apparent in considering the issues that, while the controversy over conditionality has typically been about its impact on borrowing countries, that focus, though deserving of continuing attention, does not encompass all the major aspects of conditionality. In particular, conditionality has important influences on the functioning of the international financial system. . . . [T]here is next to no formal analysis to draw on in deciding issues involving the economics of concessional assistance, the use of aid to promote private sector investment or alternative financing arrangements for multilateral development banks. Even the relevance of prior analysis of the relationships between aid and aggregate economic growth is limited because of out-of-date econometrics and inadequate theoretical underpinnings. . . ."

(Eckaus and Lessard, pp. I-31,32,33)

M.I.T. RESEARCH ON
U.S. OPTIONS FOR MODIFYING THE INTERNATIONAL MONETARY SYSTEM

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I. Summary

The NSF Solicitation for a study program on U.S. Options for Modifying the International Financial System was interpreted at M.I.T. as a request for specific research undertakings which would provide improved bases for policy formation. The strategy followed at M.I.T. was based on the view that policy-related research should provide a deeper comprehension of basic issues, especially with respect to the international monetary and financial system, given the complexity of the questions and the limited understanding at all levels. Specific research projects were defined and undertaken rather than a survey of the problems. The participants were seven faculty members, two research associates and two advanced graduate students. Their close association at M.I.T. made it possible for them to interact in designing and carrying out their research and to present an integrated proposal.

The research was undertaken and proposed on the following topics:

- (1) Exchange rate determination and the international monetary system;
- (2) The international financial system; and
- (3) Aspects of the international monetary and financial system related to developing countries.

The central role of asset markets was recognized to encompass a set of issues which ran through all of the individual research projects and provided an intellectual theme which, as well as the substantive interests, brings all of the projects together.

II. Introduction

In the spring of 1981, the Division of Policy Research and Analysis of the Directorate for Scientific, Technological, and International Affairs of the National Science Foundation solicited proposals for the design and implementation of an integrated program of studies on U.S. Options for Modifying the International Monetary System to be carried out in two stages. This report summarizes the research accomplished in the first stage and proposed for the second stage by the M.I.T. project team.

The solicitation was interpreted at M.I.T. as a request for specific research undertakings that would provide an improved basis for policy

formulation. There are a number of alternative ways of subdividing and categorizing current and prospective international monetary and financial problems and a substantial amount of literature already in existence explaining in general terms why they are problems and why they are all interdependent. At M.I.T. we attempted to move beyond the obvious to define specific aspects of the general policy issues which met the criteria of policy significance, research feasibility and interest of the researchers.

In order to draw on the experience and skills of scholars of established reputation, members of the M.I.T. Economics and Management faculties whose past and current research areas were relevant to the major policy issues of international money and finance were invited to join the study group. Thus, the fact that individual members of the group would be pursuing their particular research interests within the general areas of research of the proposal was regarded as a major strength rather than a weakness of our approach.

Given the wide scope of the topic and the specific request for an integrated study program, a relatively large number of economists at M.I.T. with research activities in international monetary and financial issues came to be involved. The participants were seven faculty members, two research associates and two advanced graduate students of M.I.T.'s Department of Economics, Sloan School of Management and Energy Laboratory. The close association of the group made it possible for them to interact in planning the study program so as to integrate their individual parts. Thus, the authors of this paper are privileged to be the rapporteurs for a joint effort by nine colleagues. Since this paper is authored by only two members of that group, however, the others should not be held responsible for the form in which their ideas are presented.

The NSF Program Solicitation called for "applied studies which will contribute to international economic policymaking." Members of the M.I.T. group consulted with U.S. Government officials as well as key individuals in private financial institutions for their assistance in identifying specific policy issues among the general questions related to the international monetary and financial system. It is the opinion of the group that current preoccupations of policymakers often identify essential difficulties. However, the group also believes that the perspectives of researchers not involved in policymaking and administration are often necessary to identify important issues which will arise in the future. Therefore, the group did not restrict itself to the most immediate international monetary and financial problems faced by the United States.

The strategy of the M.I.T. group was based on the view that policy-related research should provide a deeper understanding of basic issues. This approach is especially important with respect to the international monetary and financial system, given the complexity of the issues involved and the limited understanding of the workings of the system by both academic researchers and policy analysts. Moreover, the quality of the individual, more narrowly defined research activities would be substantially improved by embedding them in a context which reflects the interdependence between the various aspects of international monetary and financial problems.

We must emphasize that the research to be described below reflects our belief that we were being asked to define specific research topics and we were responding to this rather than to a request for a general description of issues and a proposal for a consultative process on any problems that might arise. The topics chosen were regarded as among the most critical for U.S. policy. It was not our intention to propose research which would lead to specific policy-action documents for the U.S. Government although we stood ready to respond to specific requests for information by U.S. policy-makers on the issues which we proposed to investigate.

The next section will provide a brief overview and presentation of the major integrating themes for the research undertaken and proposed. The following sections will deal with each of the specific areas investigated.

III. Overview of the Specific Research Projects

The research undertaken and proposed fell naturally into three categories of U.S. policy concern: (1) exchange rate determination and the international monetary system; (2) the character and consequences of changes in international financial integration; and (3) aspects of the problems of developing countries related to international monetary and financial issues.

The central role of financial asset markets was recognized to be a theme which not only brings all the topics together but also an area which especially requires research in order to provide new insights on specific policy problems. Exchange rate determination, for example, must be viewed as a macroeconomic problem in which goods markets and asset markets interact. Monetary influences do not work out in any simple way; money is, itself, an asset whose price and availability will affect the pricing of and availability of other assets, as well as current production. The substitutability of domestic and international financial assets, in turn, depends on the degree of integration of international financial markets. Thus, the analysis of international financial markets is clearly necessary in any study of changes in the patterns of international financial integration and their consequences for U.S. international financial policy.

International financial markets are one of the major avenues for both the exercise of policy and the transmittal of shocks. The international financial institutions play a major role in the provision of external finance and in control of its use, partly through the funds they provide but also, to an extent which requires detailed study, through their influence on private international financial markets. The analysis of the problems of developing countries has in the past concentrated on increasingly complex models of real transformation, accumulation and growth. Models are now being designed to capture the distinctive macroeconomic behavior of such countries. The next step in the evolution of these new macroeconomic theories is the inclusion of asset markets, domestic and international.

Identification of a concern with asset markets as a common element in the different aspects of international money and finance which were identified for study in the program does not mean that this concern was expected

to dominate every study--nor was it proposed to make the program entirely into a study of financial markets. Rather, as suggested, there was recognition of a major line of interconnection and interdependence among the separate studies proposed. Interaction among the eleven participants on this theme was expected to improve all the studies and contribute to their overall coherence. There are other interconnections among the proposed studies as well, e.g. in the analysis of the effects of exchange rate changes on the domestic economies both in advanced and developing countries and through the analysis of the effects of changes in petroleum prices on exchange rates and international finance.

The consensus on research methodology of the prominent theorists and econometricians who participated in this study at M.I.T. was that no attempt should be made in the design of the individual studies to impose a single set of models or conceptual approaches. The understanding of issues involved has not reached the point at which even a substantial subset of the problems proposed for investigation can be brought within the scope of a single methodological approach. Neither can the relevant empirical analysis be approached in a single way. It was expected and, in fact, was found to be the case that there were general benefits from having a relatively large and diversified "portfolio" of research in a closely associated group. This generated opportunities for improvement in each component by association with the others, as well as the ability to respond on a wider range of issues than would otherwise be possible. Of the specific studies undertaken and proposed, a number were joint projects and several were primarily individual undertakings. These will now be described briefly.

IV. Exchange Rate Determination and the International Monetary System

A major issue in the world economy is the extent to which exchange rates appear to move out of line with the fundamental economic values which they should mediate. Professor Dornbusch reviewed recent exchange rate developments, the principal theoretical explanations for these developments, and explored major policy options facing the United States with regard to influencing exchange rate behavior or better adapting to it. Together with Stanley Fischer, he outlined plans to explore the links between domestic monetary policy, capital flows, and exchange rate behavior, and policies for intervention to moderate these linkages.

A. The International Monetary System under Floating Exchange Rates

In the late 1960's and early 1970's there was broad support among economists for flexible exchange rates which would, it was believed, give individual economies greater macroeconomic independence, especially in the use of monetary policy. They would also help reduce the pressure for protectionism by removing the balance-of-payments argument for import restriction. There were worries that speculation could cause excessive variability of exchange rates, which might interfere with the integration of world markets in goods and assets, but, by and large, economists expected the exchange markets to be "well-behaved," with speculators acting to smooth rather than accentuate exchange rate fluctuations.

After nine years' experience with a floating exchange rate system, it is hard to deny that the results have been disappointing. Although world trade has not been perceptibly impeded by floating rates and world capital markets have probably been better integrated in the 1970's than before, exchange rates--and also relative prices, i.e., "real" exchange rates--have been highly volatile. At the same time, macroeconomic independence has not followed from floating rates. Finally, there is growing worry that the volatility of floating rates may threaten the viability of the dollar's role as international money, with resulting disruptive effects.

The research undertaken and proposed may usefully be placed under three headings. First is a reconsideration of the determinants of nominal and especially real exchange rates. Why are exchange rates so volatile, and are they persistently "wrong" in some sense? Second is a rethinking of macroeconomic policy under floating exchange rates, with particular attention to the scope for independent national monetary policies, the transmission of monetary policy to other countries, and the macroeconomic implications of speculation. Finally, the implications of floating rates for the international financial system, especially the international role of the dollar and the effects of alternative types of intervention, require consideration.

In the middle-1970's, two major schools of thought about exchange and interest rates emerged. On one side was the "Chicago" view which essentially was that: (i) expected real interest rates are quite stable, and in particular are not much affected by monetary policy, and (ii) expected future exchange rates reflect the market's rational expectations about "fundamentals"--future money supplies, future economic growth, etc. The implication was that the real exchange rate can be regarded as a good approximation to an equilibrium rate, i.e., one which represents the collective wisdom of the market about what relative prices are consistent with long-run market clearing.

The other school, largely associated with MIT, agreed with the view that expectations will reflect long-run fundamentals, but argued that monetary policy could affect real interest rates, causing movements of the real exchange rate. The "MIT view" can be thought of as one in which the actual real exchange rate swings around an anchor, the equilibrium rate, with real interest differentials the driving force.

Dornbusch now argues that accumulated evidence suggests that both of these views about exchange rates are too optimistic about the tendency of exchange markets to keep rates near their equilibrium level. First, real exchange rates have not only fluctuated more than anyone believes equilibrium rates do, they have often seemed to spend long periods far from any reasonable estimate of an equilibrium level. Second, the effectiveness of tight money in causing high real interest rates, and the effect of real interest differentials on real exchange rates, have been reconfirmed by United Kingdom (U.K.) and U.S. experience in recent years. Indeed, the effects have been so strong as to make it questionable whether the market really holds any strong belief that the exchange rate will return to its equilibrium level.

Third, the evidence does not support the view that exchange rates are effectively tied down by the underlying fundamentals. For some time now it has been standard for theorists to rule out speculative bubbles by assumption, but there is no good evidence that they do not happen in reality.

As a matter of direct observation, participants in the exchange market do not pay much attention to the fundamentals which presumably determine equilibrium rates, and even if there is a long-run tendency for the exchange rate to return to its equilibrium value, this tendency seems to be weak compared with the volatility of the market.

B. Macroeconomics of Floating Rates

The growing doubt about the tendency of exchange rates to remain close to fundamentals raises serious questions about the macroeconomic virtues of floating exchange rates. It now seems that monetary policy under floating rates is much less free than supposed. Related to this is the reappearance of concern about interdependence, with Europe complaining about U.S. monetary policy. Further, it is possible that speculative bubbles can have important real effects.

In principle, a country can freely pursue an expansionary or contractionary monetary policy so long as it is willing to let the exchange rate float to wherever the market thinks appropriate. If Dornbusch is right in arguing that exchange rates are not firmly anchored to equilibrium values, however, the exchange rate changes may well be so large as to make the policy unacceptable, and the real exchange rate can take the place of the balance of payments as a brake on independent monetary policy.

A closely related issue is the transmission of economic policy. Traditionally, floating exchange rates were expected to provide countries with at least approximate insulation from each other's macroeconomics policies. This presumption looks less and less like it is true, however. Fiscal expansion in both the short run and in the long run will tend to raise real interest rates. That increase in real interest rates may, in turn, have a long-run effect on the equilibrium exchange.

Monetary stabilization, certainly in combination with fiscal expansion, cannot fail to raise the real interest rate in the short run and therefore to lead to international portfolio reshuffling in favor of the dollar. The portfolio shifts, in turn, induce currency appreciation both in real and in nominal terms. That appreciation, which is an international side effect of U.S. domestic stabilization policies, is a serious macroeconomic problem. Monetary tightness in the United States by inducing currency appreciation exports inflation abroad. The depreciation of European currencies raises import prices there and, in conjunction especially with indexation, leads to spreading of higher import prices. The order of magnitude of the inflationary impact is extremely large, particularly when it is considered in conjunction with the reduction in growth. To Europe, without question, a tightening in the United States represents an adverse supply shock.

To the extent that Europe is committed to containing inflation, there is some scope for affecting the composition of the shock between recession and inflation. By matching the U.S. rise in interest rates, the depreciation in their exchange rates can be dampened but only at the cost of a deeper recession.

Finally, it may be necessary to revive the notion--not respectable for some time--that real costs are imposed by unjustified speculative bubbles. Dornbusch suggests that there have been a number of cases of speculative attacks which have driven currency values up or down without underlying justification. Important research on the volatility of asset prices has raised the question as to whether asset prices move "too much," given the path of fundamentals such as interest rates or dividends. Much the same question suggests itself in the context of exchange rates. Recent analyses discuss the conditions under which speculative bubbles or cumulative divergences of exchange rates from a path warranted by fundamentals may arise. There might be a "rational" bubble. The more overvalued the exchange rate, the more rapidly it is appreciating; the more undervalued it is, the more rapidly the rate is depreciating. Bubbles are not self-correcting except by a crash. Bubbles involve the possibility of temporary, cumulative deviations from fundamentals, while they last. An exchange rate bubble will have real effects on competitiveness, inflation, and employment. It represents a macro-shock that, if possible, should be offset by policy actions. The possibility of rational bubbles is important to recognize because it represents a fundamental departure from the view that markets do things right, all the time.

A different kind of exchange rate problem emerges because expectations about the path of fundamentals affect the current level of the exchange rate. Expectations based on the possibility of a large change in policy regime may have an important effect on the current exchange rate and therefore on the difficulties of macroeconomic management. Specifically, an expectation of expansionary policy, whether justified or not, will lead to current actual depreciation and thus to current inflationary pressures ahead of any expansion. Conversely, a belief in tightening will lead to appreciation and deflationary pressure. There is a sense in which the exchange rate, in this setting, behaves exactly right. Asset holders, concerned about the possibility of capital losses and in response to reassessments about the path of policies, shift their portfolios and thus move the exchange rate. But there is also a sense in which this forward-looking, asset-market-oriented adjustment of exchange rates works with an overkill. By adjusting to the whims and fears of the moment, the exchange rate may move quickly, and possibly a lot, and it will move relative to other, more stable or sticky prices. Thus the real exchange rate, which guides the international division of labor, in these circumstances is being moved in response to conjectures about the future course of the nominal quantity of money or real money demand. Many exchange rate issues arise because exchange rates are and behave like asset prices, but also play an important role in goods markets as well. It is necessary to consider appropriate policy remedies to these problems and whether the possible remedies are cost effective. These issues are as yet unresolved and require further research.

V. The International Financial System

The international financial system has been changing rapidly in recent years and there are many aspects of it, related closely to international monetary arrangements, of which there is only limited understanding. Research in this general area was started on a number of specific topics.

A. International Integration of Financial Markets

A major factor increasing the concern with the interdependence of monetary, fiscal, and exchange rate policies of various countries is the increasing international integration of financial markets. From the viewpoint of national policymakers, such integration is often viewed as a constraint on national policies, and governments frequently take steps to limit the use of their currencies in offshore markets and limit access to their domestic capital markets. Further, national securities and banking laws often include prudential regulations which, in effect, limit international linkages. However, financial theory suggests that the integration of financial markets also conveys major benefits in terms of risk spreading, increased competitiveness, and increased stability in the availability of funds. Thus, steps taken in pursuit of national stabilization goals may impose a cost in terms of reduced international financial integration. Further, given the flexibility of banks, firms, and governments operating in international financial markets, it is not clear that such steps can be successful without creating major distortions. Research in this area was headed by Professor Donald Lessard of the Sloan School of Management, with the collaboration of James Paddock of the M.I.T. Energy Laboratory and the assistance of Robert Kahn of the Department of Economics.

The research identified seven important steps which must be accomplished in the study of international financial integration:

(1) Identification, description, and analyses of existing explicit or implicit barriers to cross-border financial transactions including: (a) currency volatility, (b) credit and exchange controls, (c) political risks, (d) taxes, and (e) other national regulations;

(2) Modeling of the impacts of the effect of various sets of barriers on financial market equilibrium;

(3) Empirical verification of the effects of various barriers on capital market equilibrium through case studies of particular events, tests of arbitrage relationships, comparisons of actual financial holdings with the implications of equilibrium models incorporating various barriers and, if possible, tests of overall capital market equilibrium;

(4) Analysis of the distribution of gains among firms, investors, and financial intermediaries in various countries resulting from changes in barriers identified in (1) and analyzed in (2);

(5) Analyses and testing of specific responses of nonfinancial corporations and financial institutions to various financial market interventions in order to determine both the efficiency and distributional effects of various interventions;

(6) Analyses of the implications for U.S. financial markets and regulatory policies of the major role played by U.S. banks in cross-border lending;

(7) Analyses and empirical evaluation of the role of financial linkages in transmitting economic shocks.

Preliminary conclusions may be summarized as follows:

(1) The current degree of international financial integration appears to be limited relative to a theoretical optimum;

(2) This limited integration can be explained in part by the existence of explicit barriers to international capital flows;

(3) However, this limited integration also appears to be the result of dead weight costs to international investment that result from the limited enforceability of cross-border contracts.

A fundamental positive economic question which underlies the formulation of policy is the extent to which financial linkages increase world economic risk, in which case the "buffering" of national economies is desirable, versus the extent to which they merely shift risks inherent in economic activity and, hence, increase economic welfare. This latter perspective, suggested by modern capital market theory, is virtually absent in the macroeconomic literature which typically either ignores risk or treats it crudely. Thus, an important extension of international macroeconomic theory is required to help identify the benefits of international financial linkages and whether, and by how much, they exceed their costs in terms of various national objectives.

B. The Changing Role of the Dollar and International Monetary Reform

A second major change in the international financial system is the declining role of the dollar in international trade and, hence, the changing relationship between exchange rate movements and relative price changes which affect the competitiveness of U.S. firms and the costs faced by U.S. consumers. Paul Krugman, of the Department of Economics and the Sloan School of Management, with the assistance of Catherine Mann, graduate student in the Department of Economics, explored the role of the dollar in trade and its implications for international monetary reform and began a longer-run empirical study of the subject.

In the period before 1971, integration of international financial markets and, to a lesser extent, goods markets, was based upon the U.S. dollar with reserves and international lending being denominated primarily in dollars and a substantial share of world trade invoiced in dollars. There has been important erosion in some of these roles of the dollar since that time and

growing concern about the possibility of a more severe decline in the dollar's special international position. Krugman has made progress in developing a theoretical framework for the analysis of the functioning of the dollar as an international currency stressing the interaction of transaction costs, calculation costs and economies of scale.

An empirical study was started using the now considerable evidence on the currency of invoice in trade. A preliminary examination of invoice data for industrial countries suggests that much of the variation could be explained by three rules: (i) other things equal, the exporter's currency is preferred; (ii) other things equal, the currency of the larger partner is preferred; and (iii) Japan likes dollars. The results suggest a model which emphasizes calculation costs while recognizing the role of political influences. It was proposed to continue this research by focusing on the future international role of the dollar and proposals for monetary reform such as the substitution account.

C. Organization of Petroleum Exporting Countries (OPEC) and International Financial Markets

Another aspect of the international financial system which was investigated by Paul Krugman was the role of the OPEC surpluses which began to be generated in such large volume in the mid-1970's. The oil shocks of the 1970's contributed to a major increase in the integration of the world financial system. Before 1973, short-term, "hot money" moved in response to interest differentials and expected changes in exchange rates. The Eurodollar market had grown, in large part to finance trade, but long-run resource transfers through financial markets were modest, at least by more recent standards. Thus, it has been argued that OPEC surpluses "internationalized" capital markets for the first time in the 1970's by creating a pool of internationally mobile funds large enough to arbitrage differences in long-run rates of return.

Three related issues regarding the effect of OPEC on world financial markets were considered. The first set of questions is about the determinants of the OPEC balance of payments, with an eye toward forecasting changes in the future contributions of OPEC to the pool of internationally mobile funds. A second issue is the extent to which OPEC surpluses have actually been a major integrating factor in world capital markets. Has there really been a change, or will the system revert to its earlier status with the decline in relative oil prices and as the OPEC nations pursue their own industrialization policies? Finally, a third issue is the linkage of national policies through energy demand and OPEC's balance of payments.

In studying the determinants of OPEC's balance of payments, the central question is the motivation for OPEC surpluses. One view, which might be called the "rainy day" model, is that OPEC nations will steadily acquire foreign assets to provide themselves with income once the oil is gone. An alternative view, the "clogged harbor" model, holds that OPEC nations have run surpluses only because they cannot immediately spend sudden increases

in income. The two models have very different implications for the duration and size of OPEC surpluses even at the current, relatively low oil prices, which make the differences among oil exporting countries more dramatic. A preliminary look at both cross-sectional comparisons of OPEC nations and at their behavior over time supports the "clogged harbor" hypothesis for the late 1970's. The next step is to attempt a predictive empirical model of OPEC saving and investment behavior.

In asking whether OPEC has actually integrated the world's capital markets, the first issue is whether capital markets have actually become more integrated. A direct test of the relationship between savings and investment rates in the pre-1973 and more recent periods is a necessary first step; a second step is to look more closely at the actual channels of capital flow. The key question is whether there is a measurable change in structure after 1973 and, if possible, to distinguish where this is closely tied to OPEC or an independent event.

The final issue is interdependence through OPEC's balance of payments. A preliminary analysis by Krugman suggests that one of the most important effects of U.S. energy policy is its indirect effect on the U.S. terms of trade in goods other than oil, operating via the effect of U.S. oil imports on OPEC income and thus on other countries' exports. This preliminary analysis, however, assumed trade balance; it will be crucially important to confirm the results in an empirical model which allows for capital flows and temporary current account imbalances.

VI. Aspects of the International Monetary and Financial System Particularly Related to Developing Countries

While developing countries represent only a small fraction of real and financial activity in the world, they often play a relatively large role in policy issues relating to the international financial system. First, international financial linkages are more important to developing countries than to industrialized countries both because of the less-developed nature of their internal finance system and their often divergent patterns of income and growth. External financial claims average roughly 25 percent of the gross national product (GNP) for those developing countries which borrow internationally, compared to roughly 10 percent for industrialized countries. Second, given the dependence of developing countries on external finance and their vulnerability to world business developments, changes in relative prices, and domestic turmoil, the possibility of nonperformance on their loans has been considered to be a major potential disturbance to the international financial system. Finally, given the current U.S. emphasis on enhancing the role of its private sector in economic development, an exploration of enhanced contribution of financial markets is called for. The solicitation specifically requested research on this range of issues and that request matched the interests of several M.I.T. personnel. Several specific projects were undertaken.

A. A Cross Country Analysis of Debt Servicing Capacity

Research in stage I conducted by James Paddock suggested that a major issue facing the players in the international financial system was whether international lenders, primarily commercial banks, were overly exposed to possible defaults by sovereign borrowers, especially less-developed countries (LDC's), and whether the LDC's were overly dependent on particular sources of international funds. While the reaction of much of the official and private communities was that the "house had been put in order," or was never in disarray, other persons in significant positions believed there were sensitive and important questions which required basic research. This was the view of an M.I.T. group led by Professor Dan McFadden with the collaboration of Professors Eckaus and Lessard. This group found that surprisingly little was known about the determinants of a country's debt-servicing capacity or about the stresses imposed on the international financial system and particular borrowers by recurrent crises.

A major element of the proposed research was the need to more clearly define debt-servicing capacity and the consequences of international financial distress. Existing measures of debt-servicing capacity suffer from narrowness of scope, if only a single measure is used, or arbitrariness of weighting, when multiple factors are combined. Discriminant analysis which has been attempted is subject to a number of econometric objections. Logit analysis of debt-servicing capacity is a promising approach which this research proposes to extend by enhancing both its economic and empirical underpinnings.

One modification to existing approaches would adopt a more flexible definition of the independent variable to include countries experiencing "balance-of-payments difficulties" as well as those in such danger of debt default that emergency rescheduling and repackaging of their debt is necessary. This will generate an analysis which is of more interest but will require a respecification of the econometric approach. The interdependence of economic policy in anticipation of difficulties of both types and the explicit occurrence of the problems must be taken into account. For example, the ability of a country to obtain financing to overcome short-term liquidity problems reduces the likelihood of debt rescheduling, but credit availability is influenced by perceived debt-servicing capacity. These complications can be handled econometrically by the use of qualitative response models. This is the natural tool to use in such a study if observed government behavior as well as lenders' decisions are viewed as the result of policy decisions.

Further research should permit the exploration of short- and long-term implications for balance-of-payments adjustments of a country's economic performance. Benchmark forecasts of probabilities of balance-of-payment crises will be transformed into benchmark ratings of credit worthiness for comparison with subjective and other rating systems.

B. The Conditionality of International Financial Institutions and U.S. Policy

Conditionality, the terms imposed by international lending agencies on borrowing countries as qualifications for the granting of credit, is a matter of national as well as international concern. The U.S. Congress in P.L. 96-389, which provides funds for the most recent increase in the International Monetary Fund (IMF) quota, indicates in general terms the goals of employment, income growth and distributional equity which the U.S. representatives to the Fund should seek to have reflected in Fund lending. These goals constitute criteria for IMF conditionality proposed, without doubt, because of the belief that they had not been given sufficient weight in the past. Research in this area was pursued by Professor Richard Eckaus, relating the conditionality of international financial institutions to the structure of international financial markets. Conditionality is an old topic which has been the subject of increasing current interest as the U.S. Government reviews its policy position, as borrowing countries reexamine their characteristic criticisms of the terms and as the role of the international institutions changes. It became apparent in considering the issues that, while the controversy over conditionality has typically been about its impact on borrowing countries, that focus, though deserving of continuing attention, does not encompass all the major aspects of conditionality. In particular, conditionality has important influences on the functioning of the international financial system.

The international financial institutions affirm that they take into account the individual situation of each borrowing country while their critics often contend that they do not, at least not sufficiently. Yet no attempt has been made to construct and systematically test a taxonomy of relevant conditions which would be useful in judging more clearly the relations between the terms of conditionality and its effects on borrowers. The development of a taxonomy must be based on the theories of growth and adjustment, and especially on financial theory.

The relations between conditionality and the private international financial system were also considered. There is evidence of continuing high rate of nonperformance on loans by international borrowers. This has led to a growing number of instances of recourse to the IMF in which such nonperformance is actually or potentially the precipitating factor. Conditionality in these circumstances has a different significance than when trade problems were the immediate cause of difficulty. In understanding the international financial transactions which increasingly are behind the appeals to the IMF, the structure of competition and market and nonmarket clearing procedures in private and official international lending to borrowing countries must be considered. The existence in most international financial contracts of conditions on borrowers, in addition to the price of borrowing, suggests that extensions of the theory of rationing and discrimination would be useful in understanding the contracts. The theory of finance must also be utilized to analyze the nature of the relationships among borrowers and lenders.

Country studies are sources of hypotheses and means of testing whether the analytical structures generated provide insights. In addition, econometric modeling to determine the predictive power of theories generated was proposed.

C. Bilateral and Multilateral Economic Assistance to Developing Countries

Although official aid flows represent a rather small fraction of all foreign borrowings by the LDC's, it is generally believed that their role is crucial. Research in this area was undertaken by Charles Blitzer, Research Associate, MIT Energy Laboratory, who recognized that unfortunately for the policymaker there is next to no formal analysis to draw on in deciding issues involving the economics of concessional assistance, the use of aid to promote private sector investment of alternative financing arrangements for multilateral development banks. Even the relevance of prior analysis of the relationships between aid and aggregate economic growth is limited because of out-of-date econometrics and inadequate theoretical underpinnings. Two related issues were selected for study because of their policy relevance and the feasibility of the research.

(1) Aid and Economic Performance

A survey of the field indicated that a fresh approach is needed in order to determine to the extent possible: (a) the country circumstances in which official assistance will be more or less effective in terms of overall performance, and (b) whether there are measurable differences in impact between different forms of aid. It is necessary to develop an analytical framework flexible enough to distinguish between program and project aid, different types of concessionality and types of countries. This must then be given empirical content by estimating aid-economy relationships econometrically, combining cross-section econometric studies with country case studies.

(2) Aid and Private Foreign Financing

Consideration of the relationships between concessional assistance and private international financing revealed major gaps in our understanding of the issues. This undertaking is necessary in order to evaluate the likely impacts of alternative approaches to implementing the U.S. policy of designing bilateral and multilateral aid programs to stimulate private investment. The question which emerges most strongly is simply why more private investment is not going to developing countries. The specific relations between official assistance and private investment, including screening of projects and partial financial participation, also remain relatively unexplored.

D. Financial Linkages and Trade Between Developed and Developing Countries

The starting point of research on this topic by Lance Taylor is his 1981 model of North-South trade which, like other recent work, presupposes asymmetries in the structure of production and demand in the two types of

countries. These make it difficult for the developing countries to exploit their trade advantages or to carry out a diversified program of internal investment and growth. The extension of the research considers the treatment of asset markets and a consideration of the linkages among countries on financial as well as trade accounts. This research requires the construction and analysis of two types of models: a financial real-growth model and a computable general equilibrium model of trade and financial interaction among a number of countries.

For a typical poor developing country, the main liabilities of its consolidated financial system are its inconvertible currency and its debt to advanced countries. The assets are internal credits and some foreign reserves. In order to take account of financial interactions, it will be useful to introduce an international asset such as an internationally accepted "bond" as well as convertible currency and as well, perhaps, gold as a tradeable asset. Although the conjecture can be verified only by the actual research, it can be expected that a financial real-growth model will generate useful insights as have been achieved by similar models at the country level.

A financial-growth model is also necessary in order to extend the computable general equilibrium models in order to deal with a number of countries and special cases. This type of model has important advantages as compared to international econometric modeling for the purposes desired due to data limitations, the desire to have significant sectoral disaggregation and the goal of a theoretical framework which would permit general insights. General equilibrium modeling has been pioneered by Taylor in a number of different applications and is now being extended by him through the introduction of financial markets into individual country models. An initial multicountry model, concentrating only on trade relationships, which is being constructed by a MIT graduate student under the direction of Taylor and Eckaus, will provide a solid basis for the extension to include international financial markets.

E. Appropriate Nonconcessional Finance for Developing Countries

Drawing on the research framework developed in the study of the integration of international financial markets, Don Lessard proposed a set of further studies focused specifically on enhancing the role of private non-concessional external financing in economic development. This research emphasized the risk-bearing role of finance and proposed the investigation of various instruments and/or institutions that would reduce the stress imposed on the system and on individual countries by the overreliance on credit instruments which shift risk only through nonperformance.

PUBLIC POLICY TOWARD INTERNATIONAL BANKING

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In line with our original proposal to the National Science Foundation (NSF), most of the substantive results from Phase I of our project relate to public policy toward international banking. Our efforts regarding other topics essential to a comprehensive consideration of options for modifying the international financial system--international reserve and foreign exchange arrangements, the role of international financial agencies, financial policies toward developing countries and international financial sanctions--were directed mainly toward developing a research team and an agenda for Phase II. Appendix A contains a topical outline, organized in terms of issues and options, that summarizes the full range of research contemplated for Phase II and Appendix B contains a complete list of working papers prepared for Phase I, to which we shall make reference.

Part I of this paper describes the key policy issues concerning international banking that we identified during Phase I. Part II summarizes our work on policy options. Part III presents our reflections on the methodologies that we employed, the need for improvements in the data concerning international banking activities, and priorities for future research.

I. Key Issues Identified During Phase I

A. Introduction

We began the project by attempting to develop an analytic framework that would be useful for investigating aspects of the international banking system that are vulnerable to crisis. Our framework emphasizes shocks and the capacity to withstand shocks (see Working Paper 1). From the standpoint of lenders, a shock is an event that causes loss: a credit shock, for example, arises from borrower failure to repay loans. Shocks to borrowers are events that severely impact their ability to service debt.

The capacity to withstand shock has two dimensions: liquidity position, meaning the ability to meet cash needs when they arise; and capital position, meaning the ability to withstand losses. Capital position is much more important than liquidity position in affecting a system's vulnerability. A major reason is that liquidity positions in the aggregate can be strengthened to whatever degree central banks wish, while capital positions cannot. An economic system becomes more vulnerable to financial crisis because the probability of shocks rises, or the capacity of the system to withstand shocks declines, or both.

Our framework distinguishes subjective and actual shock probabilities; the latter may change slowly over decades, but the former can change overnight in response to a shock. Several "small" shocks have occurred in recent

years that have had marked impacts on financial markets, but major crises so far have been avoided.

A "crisis scenario" is a sequence of events over a relatively short time that includes at least one major shock and may culminate in a financial crisis. The more we know about crisis scenarios, the better prepared we are to avoid crises. Working Paper 6 discusses an insolvency scenario associated with a marked rise in interest rates, and illiquidity scenarios arising from a tight monetary policy in the United States, or from a blockage of currency convertibility by governments of one or more countries in which major international banks have large positions. The first of these is potentially the more serious in the sense of being least remediable by existing institutions.

We propose that a more detailed analysis of crisis scenarios should be made to cover insolvency scenarios arising from debt repudiation by one or several major borrowers, a sudden cessation of lending by major international banks, a marked curtailment in oil production, a severe disruption in foreign exchange markets, a serious trade war involving major countries, and an operational breakdown in the international payments clearing system.

B. Issue: To What Extent is the Interbank Market a Source of Vulnerability in the International Financial System? (See especially Working Paper 6.)

If any type of crisis scenario develops in international banking, a serious danger exists that it will spread quickly from one bank to another through the interbank market. That market has grown remarkably in recent years. Market observers suggest that there were no more than 200 banks in the market in 1973, and well over 1,000 in 1982.

The interbank market can be a mechanism for contagion in two separate although related ways. First, if bank A gets into trouble (say, because of heavy exposure to a defaulting country), bank B, which is a creditor of A, also can be in trouble. This is interbank credit risk. Second, if bank A gets into trouble, bank C may find it difficult to roll over its interbank deposits because other banks will fear either that C has credits outstanding to the same borrowers as A, or because they fear that C is a creditor of A. These fears may or may not be justified. This is interbank funding risk.

Some important features of the interbank market heighten these risks. One is that the interbank market involves long transaction chains with many links. The longer the chain of transactions, the larger the number of banks that will be potentially affected by difficulties experienced by one bank in the chain. Furthermore, the long chains along with rapid turnover make it very difficult to determine the total exposure of any one bank to any other bank.

While most banks operate on both sides of the interbank market, some are typically net creditors while others are net debtors. Data provided by the Bank of England indicate that the latter are generally the weakest banks in the market. They include the smaller Eurobanks that have a relatively minor proportion of their liabilities to nonbanks; banks whose loan portfolios

are growing most rapidly (and whose capital positions are therefore probably declining most rapidly); and consortium banks whose access to lender-of-last-resort (LLR) assistance in the event of trouble is least secure.

Finally, maturities in the interbank market are short, generally less than six months, and they are shortest for the weakest banks. Individual banks view short maturities as a prudent method of protecting themselves against credit risk, but in the aggregate this practice increases the vulnerability of the system by exposing the weakest banks to serious funding risks in the event of trouble.

When the Herstatt Bank in Germany failed in 1974, it sent tremors throughout the interbank market. In our interviews with international banks and bank regulators here and abroad (see Working Paper 20), we inquired about the measures that banks took after the Herstatt failure to protect themselves in their interbank dealing in the future. Most banks improved their capability for monitoring their exposure to individual banks. In addition, there were two other changes in practices which seem to have been only temporary.

First, immediately after the Herstatt failure, most banks very sharply pruned the list of banks to which they were willing to lend; but, over time, the lists have gradually expanded. Today there are many more banks in the market than when Herstatt failed. And since the earliest entrants in the market were generally the largest, strongest banks in the world, there is a presumption that the more recent entrants are weaker institutions. According to a recent survey of international banking practices by the Group of Thirty (G-30), more than half of the banks responding believe that "interbank activity is becoming more risky because of...an increasing proportion of interbank borrowing by banks that are relatively higher risks." The large and increasing number of banks in the interbank market and the absence of accurate information on interbank exposure raises the possibility that one bank, by borrowing even a modest amount from many different banks, could generate a very high volume of activity relative to its capital.

Second, after the Herstatt crisis, many smaller banks attempted to protect themselves against the risk of being shut off from credit in the event of another disturbance by obtaining contractual standby lines of credit. As market fears subsided, however, this practice ebbed. The smaller banks felt that it was no longer necessary to pay for contractual lines when the regular lines were once again "firm." We suspect, however, that this perception may be at variance with the intentions of the large, net creditor banks who may well view their lines to smaller banks as subject to change at any time.

Thus, despite the development of better internal information systems on exposure to individual banks since the Herstatt incident, the interbank market is still a point of significant vulnerability. The recent G-30 survey of the attitudes of bankers indicated that "unavailable interbank funds" ranked second only to "default by a major country borrower" as a risk to international banks. Furthermore, even the most effective of the bank regulators has barely begun to monitor the way international banks manage their liquidity positions.

We propose that a set of case studies should be conducted aimed at the development of a methodology for monitoring the liquidity positions of international banks. This project would explicitly recognize that international banks operating in both convertible and nonconvertible currencies and in countries with exchange controls of several types, have several "liquidity positions" covering different groups of currencies and/or countries. This analysis is essential to effective supervision of liquidity positions, whether the regulators choose to establish quantitative constraints on positions or limit themselves to an assessment of liquidity management procedures.

C. Issue: To What Extent Does the Indebtedness of Developing Countries to Banks Increase the Vulnerability of the International Financial System?

Default by a major borrowing country is the principal specter that haunts international banks in the 1980's. While much has been written about the debt burdens of less-developed countries (LDC's), a careful analysis in Working Paper 17 of the existing literature and information sources indicates that to date the principal accomplishment has been to clarify the relevant questions.

For example, while it is clear that nominal debt burdens of larger LDC borrowers (especially Brazil and Mexico) have risen sharply in recent years, much more research needs to be done to determine what has happened to their real debt burdens. Useful distinctions have been drawn between assessing LDC's capacity to pay and assessing their willingness to pay, but more work needs to be done on measures of their willingness to pay. And while LDC's showed remarkable resiliency in coping with the oil price increase of 1974-1975 and 1979, their ability to ride out another shock of comparable magnitude is not at all clear.

In our view, the vulnerability of LDC's to major shocks is a high priority issue that should be studied intensively using existing econometric models of major developing countries in conjunction with international linkage systems. The model systems should be used to simulate the effects on individual LDC's of specific shocks, including an increase in oil prices, a decline in prices of the primary commodities that provide most LDC export earnings, a sharp appreciation of the dollar relative to local currencies, and a sharp decline in the supply of international credit. Such shock impacts on LDC capacity to service debt do not predict default but do provide invaluable insights on the difficulties of maintaining debt service payments. The models would also show feedback effects from LDC's to U.S. exports.

D. Issue: To What Extent Does the Corporate Structure of International Banking Activities Contribute to the Vulnerability of the International System? (See especially Working Paper 10.)

Robert Mundheim and other lawyers among the bankers and government officials that we interviewed emphasized the importance of the responsibility of international banks for the debts of foreign subsidiaries and affiliates as a factor bearing on the vulnerability of the system. Until now this topic has been virtually ignored by economists.

The establishment of a presence in a foreign country through a separately incorporated entity contributes to the vulnerability of the international banking system in several ways:

(1) If the separately incorporated entity is in a less-regulated jurisdiction, it may be used as a device to increase the parent bank's leverage or increase its portfolio risk. (In principle, this can be prevented if the parent bank's regulator assesses its capital position on a consolidated basis, but this is often very difficult.)

(2) It may provide an incentive (as well as a means) to increase risk when the parent bank views its liability for the entity as limited.

(3) It may encourage creditors to believe that a parent bank will stand behind its subsidiary or affiliate in the event of trouble, which the parent bank might not do. (The parent bank's regulator may not have more than a marginal influence on such decisions.)

(4) Strong subsidiaries and affiliates might be "milked" to support a parent bank in trouble, which practice the host regulators may or may not be able to prevent (see Working Paper 12).

On the other hand, the ambiguity regarding the responsibility of parent banks that is inherent in separately incorporating a foreign office could make the system less vulnerable to crisis depending on how parent banks respond to shocks that affect the viability of their subsidiaries or affiliates. For example, if parent banks adopted the rule that they would always support their separately incorporated entities unless doing so would cause their own failure then the conditional liability feature would make the system less vulnerable. Our discussions with banks and regulators suggest, however, that we cannot assume that parent banks will follow such a rule. Rather, we must presume that they will accept liability if it appears to be in their business interest at the time. (As noted in Working Paper 12, this view is implicitly accepted even by regulators who have received "comfort letters" from foreign parent banks acknowledging their moral responsibility for affiliates.) It is not known whether this behavior makes for a more or less vulnerable system, relative to systems where parent banks assume no liability, or full liability.

Since legal systems determining liability can be changed, this is an important question that warrants further study. We propose using shock simulation analysis to investigate a model of the existing system and modifications of the existing system where liability rules are different. The vulnerability of the existing system under existing liability rules could then be compared to its vulnerability under alternative liability rules. The same procedure could be used to test the vulnerability of the system when parent banks, their subsidiaries and affiliates have different capital positions, and to determine the tradeoffs between liability structure, capital positions and diversification. This procedure is discussed in greater detail in Working Paper 10. An exploration of the consistency of expectations between creditors of subsidiaries and affiliates and the parent corporation regarding the liability of parent banks would also be part of the interview survey study proposed below.

E. Issue: To What Extent Do Declining Capital Positions in Major Banks Contribute to the Vulnerability of the International Financial System?

In the last ten years there has been intensified concern over and research on bank capital. This reflects two major developments: (1) capital ratios have fallen to lower levels than ever before--especially for the largest banks; and (2) for the first time since the 1930's, banks of very substantial size have failed. The Cooke Committee of bank regulators from the Group of Ten countries and Switzerland has given the issue a high priority, while supervisory authorities in a number of countries, including the United States, the United Kingdom, West Germany and Switzerland, have recently adopted or proposed new guidelines or explicit limits on bank capital positions.

Working Paper 3 documents the decline in capital ratios during the 1970's with some new data on Japanese banks obtained by the authors from the Bank of Japan. For both U.S. and Japanese banks, the declines in capital ratios during the 1970's were only temporarily interrupted by the Herstatt and Franklin National episodes. This is consistent with the hypothesis that bank reactions to "small shocks" are short-lived, as discussed in Working Paper 4.

In both the U.S. and Japanese data, the declines are concentrated among the larger banks. Large banks are heavily involved in international banking, and compete with banks from other countries that may carry lower capital ratios and price loans accordingly. Hence, the choice may be to allow capital ratios to decline or leave the market. The very largest banks and those owned by governments are subject to minimal discipline by the market because their size and/or implicit government backing is perceived as protection against failure, and these banks may be the pace setters in running down capital ratios.

The need to be competitive in international markets provides banks with a rationale for reducing their capital ratios. If they can operate through weakly capitalized, separately incorporated entities for which they believe they have no legal liability, international banking provides a convenient mechanism for reducing capital positions as well.

It is thus surprising that while the problem of bank capital adequacy and regulation has been extensively studied by economists, the international dimensions of the problem have been largely overlooked. We propose to consider the issue of capital requirements for international banks, focusing on three major issues.

(1) To what degree would the imposition of effective constraints on capital positions lead international banks to take offsetting actions to increase their risk exposure, such as holding riskier loan portfolios, weakening liquidity positions, shifting to off-balance sheet operations such as guarantees in lieu of loans, etc.

(2) What are the likely consequences of unilateral capital regulation by one country (e.g., the United States), or of multilateral capital regulation when capital requirements are of markedly different severity?

(3) Would it be feasible to establish a coordinated multicountry approach to capital regulation and, if so, how? This question involves problems of establishing uniform accounting formats; a uniform definition of capital subject to requirement; a uniform level of the requirement; and uniform sanctions for noncompliance. Some preliminary analysis of this issue is contained in Working Paper 3.

The declining capital positions of international banks during the 1970's were not neutralized by improvement in dimensions of bank soundness that are not captured in conventional measures of capital position (see Working Paper 3). This diminution in the capacity to withstand shocks is surprising when one considers that the world has become increasingly risky over the last decade. The capital positions of major domestic borrowers in the United States have trended down in a fashion similar to that of banks, while increasing debt burdens of large borrowing countries have made their capacity to service debts more vulnerable to shocks to their foreign exchange earnings (see Working Paper 17). A question of great importance is why banks have weakened their ability to withstand major shocks when the probability of such shocks occurring has manifestly increased?

F. Issue: What Hypotheses Can Explain the Behavior of Banks in International Markets?

In the recent G-30 survey of international banks, about 90 percent expressed the view that international risks had increased over the previous five years, and an equal number felt that risks would increase further in the next five years. Yet more than 80 percent saw their own international lending growing more rapidly than their domestic lending over the next five years! This conundrum is addressed in Working Paper 4.

We found some insights into this question in the literature on natural disasters, which in some respects are analogous to financial disasters. A segment of the literature on natural disasters focuses on the issue of how people deal with low probability events that carry high potential losses. One finding is that the subjective probability of a major shock is a negative function of the length of time that has elapsed since the last shock. A second major finding is that when subjective probabilities fall below some threshold level, people behave as if they were zero.

Working Paper 4 postulates that these findings apply to banks as well as to individuals. The hypothesis is that when the subjective probability of a financial crisis falls below the threshold level because no major financial shocks have occurred for a long time, banks do not protect themselves against such a shock--for example, they do not charge a risk premium to cover losses, in much the same way that individuals living on a flood plain where there has not been a recent flood do not buy flood insurance. Indeed, some special characteristics of banking tend to encourage such behavior. We have already mentioned competition as a force depressing capital ratios. Many bankers also believe that if they keep commitments short, they can flee before the flood if storm clouds appear (see Working Paper 11).

While the disaster literature is persuasive regarding the tendency to discount low probability events that carry high losses, there is a range of behavior that appears to be exactly the opposite, i.e., anticipated hazards are given an exaggerated weight in the decision process. This seems to describe the behavior of bank depositors, including banks themselves when they deposit with other banks. Working Paper 4 provides a first attempt at rationalizing the two ostensibly contradictory behavior patterns, but a great deal of empirical work is required to determine whether it makes sense.

We propose to explore this issue with case studies of loan and deposit decisionmaking at selected international banks. We would explore: (a) how individual foreign loan and interbank deposit decisions are made, including the role of quantitative analysis as opposed to dependence on personal contacts and "trust" in such contacts; (b) how overall country exposure and bank exposure limits are set and revised; (c) how responsibilities for making foreign loan and deposit decisions, including credit and pricing decisions, are allocated; and (d) how performance in all these matters is assessed, and rewarded or penalized.

The focus of these case studies would be institutional and organizational features that encourage or discourage tendencies to distort the real risks involved in particular transactions. For example, one banker with whom we discussed the problem pointed out that the practice of some banks of assessing the performance of loan officers on the basis of the contractual (expected) yields on new loans, combined with a policy of rapid transfer of personnel between departments, encourages tendencies to ignore low probability hazards that may not occur for many years. The identification of such features is a necessary first step toward the determination of organizational changes needed to eliminate biases in the decisionmaking process. This approach is consistent with a newly emerging philosophy of bank regulation--which is in part an accommodation to the complexities of international banking--to focus on the adequacy of internal bank procedures for decisionmaking, as opposed to setting quantitative standards that all banks must meet.

G. Issue: To What Extent Has the Growth of International Banking Vitiating Macroeconomic Control?

The growth of the Eurodollar market has raised a host of questions about its impact on the U.S. economy and the relationship between the external and internal dollar banking systems. Our emphasis in Phase I was on developing a research strategy to answer two key questions: (1) To what extent has the growth of the Eurodollar market complicated or compromised domestic monetary control? (2) To what extent have the Eurocurrency markets exacerbated exchange rate instability? (For details, see Working Paper 16.)

We have constructed an analytical framework that highlights the factors that determine the share of Eurodollar assets in total dollar assets and shows how the structure of reserve requirements and interest rate ceilings shapes the role of Eurobanks in the U.S. financial system. A parallel set of relationships describing the German market and the Euromark market will be specified to complete the model. The size of the Eurocurrency market is determined by portfolio behavior, especially the substitutability among

assets, the structure of reserve requirements, interest rate ceilings, the monetary base in both countries, and the structure of final credit demand.

From this framework, it is evident that the problem that the Eurocurrency market poses for monetary control is not different in kind from that which the monetary authorities have long faced in coping with the growth of nonbank financial intermediaries. Because the monetary authorities are unable to control substitution among assets, they may experience difficulties in meeting intermediate monetary targets and in predicting the consequences of their policy actions. With regard to the Eurodollar market, this observation leads to a number of policy questions: How should Eurodollar deposits be treated in measures of U.S. monetary aggregates? Do problems in netting out interbank activity in Eurodollar data make credit targets more meaningful than targets specified as monetary aggregates? What changes in the structure of reserve requirements or interest rate regulations would enhance the ability of the Federal Reserve Board to meet its targets? In large part, the answers to these questions depend on a better knowledge of the degree of substitutability among assets.

This framework also suggests that the Eurocurrency market is a transmitter rather than initiator of disturbances to exchange rate stability. Nevertheless, an efficient transmission mechanism can contribute to exchange rate instability, depending on the efficiency of alternative channels. The importance of the Eurocurrency markets as a transmitter of disturbances also depends on the degree of substitutability between assets in private portfolios.

Thus, a better understanding of the problems that the Eurocurrency market causes for monetary control and exchange rate stability depends on better knowledge about the substitutability between Eurodollar and Euromark deposits, and substitutability between Eurodeposits and comparable national deposits. We propose to apply new techniques based on comovements of interest rates and exchange rates (see Working Papers 16 and 22) to make estimates of the degree of substitutability among assets. These estimates will allow us to identify policy options for enhancing domestic monetary control and for mitigating the transmission of financial disturbances to the exchange market.

II. Policy Options: Institutional Machinery for Preventing or Mitigating the Effects of Financial Crises

A. Government Regulation

Bank regulators have not been able to check the increasing risk exposure of international banks, partly because the internationalization of bank regulation has not kept pace with the internationalization of banking. Regulatory problems are discussed in Working Paper 12, which is based largely on interviews with bank regulators in the United States, the United Kingdom, Holland, Switzerland, Belgium, Luxembourg and France. Some specific concerns for the United States are as follows:

(1) The ability to monitor the solvency of U.S.-chartered international banks on a consolidated basis with their affiliates is hampered by difficulties in obtaining information on affiliates in countries which do

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not permit foreign regulators on their soil--Luxembourg, Austria, Switzerland, France, Singapore, Nassau and the Cayman Islands. The main issue this poses is whether adequate substitute procedures for onsite examinations can be developed. (Problems in monitoring the liquidity position of international banks, and a proposed research project thereon, were discussed above.)

(2) While the regulators of the Group of Ten countries plus Switzerland have accepted the principle of consolidation in assessing bank solvency, the corollary of that principle, namely, that parent banks have a moral responsibility for their foreign affiliates, has met with varying degrees of enthusiasm, but the United States seems to have accepted the concept of moral responsibility. This raises a general question as to whether a system of moral responsibility (or "conditional liability") is more conducive to overall stability than a system of full liability for affiliates, or a system of no liability. (A study of this issue was proposed above.) It also raises a question regarding the implications of different attitudes toward liability by parent banks and their regulators in different countries.

(3) The United States regulates U.S.-chartered affiliates of foreign banks like any other U.S. bank, and also collects information from an affiliate's parent bank. It is by no means clear, however, that U.S. regulators could prevent a foreign parent bank that was in trouble from looting its U.S. affiliate. A study is needed of the operational techniques for looting and the prevention of looting.

B. Lender-of-Last-Resort (LLR) Facilities (See Working Paper 2).

At a Roundtable on Public Policy Toward the Euro-markets held at the Wharton School in 1980, several participants expressed concern regarding the adequacy of existing LLR arrangements for international banks. Our subsequent work has indicated that this concern is well-founded. National LLR's are inherently ill-suited to providing LLR assistance to international banks. First, since central banks represent national interests, there is no assurance that they will take a cosmopolitan view of their responsibilities in a crisis. During a period of stress, furthermore, national central banks are not in a position to persuade or compel banks to act responsibly toward Eurocurrency borrowers, nor can central banks assist such borrowers themselves. Second, the need to use foreign exchange resources may reduce an LLR's willingness to aid an otherwise sound bank. Third, LLR's usually will not risk lending to unregulated firms, and some international banks are not effectively regulated.

Several categories of banks have, at best, uncertain access to an LLR. There is clearly a problem in the case of banks that are headquartered in countries which have inadequate LLR facilities or none at all. Unless the foreign branches and affiliates are located in countries that grant LLR facilities to all resident banks, such institutions are likely to have substantial difficulties in the event of a financial crisis.

Some banks are located in countries that have adequate LLR facilities for banking activities denominated in domestic currencies, but inadequate

facilities for coping with foreign currency difficulties. These include banks headquartered in countries that do not have convertible currencies, but to an extent they may also include banks headquartered in countries with convertible currencies but relatively meager foreign-exchange reserves.

Finally, there are foreign subsidiaries and affiliates which, in the event of a crisis, may not have access to the LLR facilities of their parent bank. A parent bank's LLR might withhold assistance if: (a) the affiliate is a joint venture or consortium in which the parent bank has only a minority interest; (b) accurate and timely information on the status of the affiliate or subsidiary is not available; (c) the amounts needed by the foreign affiliate or subsidiary are substantial relative to the capital of the parent bank, so that assistance rendered might significantly weaken the parent bank; and (d) the LLR does not accept the doctrine of parental responsibility or accepts it subject to conditions and qualifications.

During Phase I, we could only begin the task of estimating the number and size distribution of banks in these categories. This is a formidable task because it requires: (a) an indepth understanding of the legal and institutional arrangements connected to LLR facilities within each relevant country; (b) an inventory of all major banks by size, location and bank affiliate relationship; and (c) an assessment of how currency convertibility, exchange controls and foreign-exchange reserves may affect the LLR facilities available to any bank. This task should be continued. To some degree, this project can be usefully integrated with the case studies of liquidity management by selected international banks discussed earlier, since liquidity management policies should be affected by the extent to which the bank has access to an LLR.

The danger of inadequate LLR facilities is less threatening to the system if the banks without an LLR know that they are without one. The worst of all worlds would be to have banks believe that they have access to an LLR when in fact they do not. On this subject we know very little except that there is great confusion, for example:

(1) Following the Herstatt affair, the central banks tried to reassure the market by stating that LLR facilities "are available ...and will be used if and when necessary." But in our interviews with central bankers and regulators in Europe and the United States, we found confusion over what LLR facilities are, let alone which banks had access to them.

(2) In the J-30 survey, three of every four banks indicated a need for clearer understanding regarding the availability of LLR facilities.

The question of whether banks' expectations regarding an LLR (if they have any) are consistent with those of the institutions the banks view as their LLR will be explored as part of the interview survey study proposed below.

C. Institutional Arrangements for Debt Renegotiation

Working Paper 11 documents serious inefficiencies in existing institutional arrangements for handling payment difficulties of foreign borrowers. Because of the prevailing "short leash" approach to controlling risks in international banking, maturities are often shorter than those that maximize borrowers' ability to repay. The result is more frequent balance-of-payments problems which often lead to debt problems. Debt problems, furthermore, often reach the crisis stage before anything is done about them. To some extent this reflects bargaining and jockeying for position among banks, banks' expectations that the troubled country should meet the problem by changing its policies, and the country's reluctance to change its policies except under severe pressure.

If the number of countries encountering payment difficulties increases significantly in the future, which seems likely, or if one of the very large debtors experiences a debt crisis, the delays and brinksmanship inherent in the current process could overload the system. The recent G-30 survey indicated that only 30 percent of the respondent banks were confident that existing arrangements for rescheduling debt would be adequate to handle an enlarged number of reschedulings in the future.

Two studies are proposed in connection with the debt rescheduling problem. One is directed to the determination of original maturities on country loans, which may tend to be shorter than those that would reflect the best possible tradeoff between borrowers' ability and borrowers' willingness to pay. The question to be explored is the extent to which short maturities are attributable to a belief by individual banks that if the condition of a borrower deteriorates, the bank will be able to reduce its exposure relative to that of other banks. This is the other part of the interview survey study described below.

The second study would use the methodology of game theory to analyze the debt renegotiation process. The situation is inherently very complex with many actors, each with independent goals and only partial control over the environment. Yet it is precisely in this sort of situation, where many actors may be optimizing at cross-purposes, that game theory has proven to be an effective framework for analysis. A strategic analysis incorporating the full richness of the bargaining process--among banks, between banks and the International Monetary Fund (IMF), between banks and official creditors, between the IMF and the debtor, between the debtor and official creditors, and between the debtor and bank creditors--is likely to provide important new insights that can lead to a swifter, more effective resolution of debt servicing difficulties.

D. Disclosure of Country Exposure

Working Paper 7 applies the framework for formulating disclosure policy developed in Working Paper 21 to the specific case of data on country risk exposure. Supervisory authorities the world over have so far rejected disclosure of such information to the market, and have also rejected the imposition of quantitative limits on country exposure. Yet from all indications,

they have not been able to constrain increasing concentrations of country risk exposure among the largest international banks. Among the international banks surveyed in the recent G-30 study, "default by a major country borrower" was viewed as the single most important threat "to the smooth functioning of the international financial system."

Hence, there may be a case for letting the market play a larger role in regulating exposure to country risk. Disclosure of country exposure data on individual banks would permit bank creditors to monitor such risks more effectively. While there are some valid concerns about such a policy (and some that are not so valid), a major positive factor that banks and regulators tend to overlook is that the disclosure of country exposure data to the market would stimulate a search for methods to share exposure more broadly. Incentives would thus be provided to create an effective secondary market for foreign loans. The existence of such a market would change the incentives to increase exposure so that banks would tend voluntarily to reduce heavy concentrations, even aside from any pressures imposed by creditors. Working Paper 7 develops a proposal for a participation pool approach to creating a secondary market for foreign loans, in which the IMF might play a central role. This proposal would be developed in greater detail. The disclosure principles developed in Working Paper 7 should also be applied to a consideration of other sensitive areas, such as interbank exposure, hidden reserves, foreign-exchange exposure, and "gapping" exposure.

The creation of a secondary market would generate an important benefit in addition to providing a means for spreading country risk exposure. It also would provide a source of valuation data that could be used to implement an important change in the regulation of international banks that we discuss in the next section.

E. Risk Exposure and Loan Valuation

While much remains to be learned, there are strong indications that international banks tend to assume excessive risk exposure. Some of the reasons, and the Working Papers where the arguments are developed, are as follows:

(1) There is a tendency for banks to discount unduly low probability hazards (Working Paper 4). Major loan losses in international banking are a low probability hazard in the sense that historically losses tend to be low for very long periods and then to "bunch" (Working Paper 9).

(2) The evidence suggests that banks price country loans as if they were virtually risk free. In addition to ignoring low probability shocks, this practice is encouraged by the fact that in the event of trouble, charge-offs can be deferred indefinitely (Working Paper 11), and by the fact that banks need not reveal their exposure to specific countries to creditors (Working Paper 7).

(3) Some international banks may have inconsistent expectations. They may believe that by keeping maturities short on loans and interbank deposits, their superior intelligence facilities will allow them to perceive emerging

trouble before other banks and "get out," which means shifting their exposure to other banks (Working Paper 11). In the interbank market, some borrowing banks may believe their credit lines from other banks are firm, while to lending banks credit lines are terminable without notice (Working Paper 6). Banks lending to affiliates of other banks may assume the parent bank will support the affiliate in a crisis, while the parent bank, in fact, retains its options not to support the affiliate if doing so is not in its interest at the time (Working Paper 10).

(4) Central banks have attempted to create the impression that lender-of-last-resort facilities are available to international banks and will be used, if necessary, whereas in fact some important international banks may not have access to any lender of last resort in a crisis (Working Paper 2).

(5) Unbridled competition in international banking tends to force capital ratios as well as portfolio risk standards down to the level of the least well-capitalized banks in the market (Working Papers 3 and 9). In general, regulatory agencies have not been able to prevent this because of the great difficulties encountered in regulating banks across national boundaries (Working Paper 12).

In light of such pressures, it may be worth considering a drastic change in regulatory procedures that would involve periodically marking all foreign loans to market, based on secondary market quotations. No harmonization of divergent country laws would be necessary, only an agreement among the regulators.

Over the long run, adoption of this procedure could provide two major benefits, although there would be enormous transitional problems as well. First, it could cause a sharp upward reassessment of the risk in foreign lending and a corresponding rise in yield spreads on new loans. (The major reason is that it would force banks to consider that any future interruption of debt service would cause a decline in market values, and therefore in book values.)

Second, over the long run, debt crises might arise less frequently. Banks would be more hesitant to underwrite policies of borrowers that were inconsistent with balance-of-payments equilibrium, since future difficulties encountered by the borrower that threaten continuity of debt service would depress market values. Countries following inappropriate policies, furthermore, might feel immediate pressure from the market to change those policies; with the value of their debt depressed, new loans will be difficult to float, and since the banks holding the outstanding debt have already taken their loss, the borrower's leverage on those banks' willingness to refinance or renegotiate might be weakened. (Clearly, there would no longer be any incentive for banks holding outstanding debt to negotiate a repayment schedule that the borrower is unlikely to be able to meet.)

The potential benefits to a system of marking foreign loans to market would be explored in the gaming analysis suggested above. That analysis would follow two parallel tracks, one based on current practice, the other involving a practice of marking loans to market.

III. Methodology, Data Improvements and Priorities for Future Research

A. Methodology

Data limitations and econometric difficulties in estimating relationships in which expectations play a central role dictated that we rely on a traditional methodology of analytic reasoning and deduction from statistical tables. Because of the paucity of relevant, published data, we found that interviews with market participants and members of the policy community were particularly valuable.

In conducting a wide range of interviews, we found that where one stands on issues concerning international banking often depends on where one sits. Issues that some members of the policy community regard as settled and of little importance strike others as open to dispute and of crucial importance. Our experience taught us that it is important to diversify interviews across residents of different countries, across institutions and even within institutions. Not only was this a useful methodological lesson regarding strategies for conducting interviews, but it also raised an important substantive issue. The diversity of opinion led us to wonder about the extent to which various actors in the international financial system hold inconsistent expectations about each other's behavior in the event of a crisis and the implications of these inconsistencies for the vulnerability of the international financial system.

In order to measure the extent to which various actors hold inconsistent expectations, we proposed that a major survey should be conducted. Four areas should be explored: (a) consistency of expectations regarding firmness of credit lines as between interbank borrowers and interbank lenders; (b) consistency of expectations regarding the responsibility of parent banks for affiliates as between depositors of affiliates (including nonbank corporations) and the parents; (c) consistency of expectations regarding adequacy of LLR facilities as between international banks and central banks (or other relevant official institutions); and (d) consistency of expectations regarding ability to reduce exposure to a given country as between different bank creditors of that country.

B. Data

We have identified one area in which the inadequacy of existing data may increase the likelihood of a crisis and undoubtedly delays the resolution of a crisis once it occurs. In addition, we argue more broadly that inadequate disclosure of information regarding the financial condition of banks may increase the vulnerability of the international financial system to a crisis by undermining the ability of bank creditors to monitor the risk exposure of banks.

First, there is an urgent need to improve data on the external indebtedness of developing countries. Since a country's outstanding stock of indebtedness is an important element in an evaluation of its creditworthiness, inadequate information gives rise to the risk of a debt crisis by miscalculation. And before a realistic repayment schedule can be drawn up, it is

necessary to know the magnitude of the repayments that must be rescheduled. The provision of this sort of information is an international public good. In the absence of government assistance, the amount of information available is likely to be suboptimal. Since no private entity could appropriate the benefits that accrue to users of such information, the private sector will lack sufficient incentives to produce the information.

Anecdotal evidence suggests that on several occasions both creditors and the debtor have been surprised by the magnitude of a country's external debt, and that renegotiations have been subjected to substantial delays while information was amassed. There have been substantial improvements in the information base over the past decade. The creditor reporting system of the Organization for Economic Cooperation and Development (OECD) Development Assistance Committee and the debtor reporting system of the World Bank have been expanded to cover a wider range of countries. But there are still important gaps in information regarding debt to nonbanks with original maturity of less than one year and long-term debt that is not guaranteed by the government.

The situation with regard to bank claims on developing countries has been remarkably improved with the introduction of two reporting systems by the Bank for International Settlements (BIS). As more members of the BIS collect exposure data on a worldwide basis for banks headquartered in their countries, the usefulness of the data should improve, but at present it is not possible to identify the worldwide activities of banks headquartered in countries other than the United States and the United Kingdom. Moreover, the coverage of some affiliates in offshore banking centers is incomplete and the data are not adjusted for guarantees.

Although proposals to improve the information base are noncontroversial, there remains the awkward question of identifying which international organization should have the responsibility for integrating the existing sources of information and filling in the gaps that result from differing institutional purposes. Nor should one underestimate the difficulty in collecting comparable, meaningful data from thousands of institutions that have located in hundreds of political jurisdictions, sometimes for the purpose of avoiding disclosure of banking data.

An international comparison of disclosure practices reveals wide variations and raises a question regarding the principles that should guide the disclosure of information about the financial condition of banks. In Working Paper 21, we attempt to develop a framework for formulating public policy toward disclosure of banking data. The disclosure problem is viewed as that of finding the optimum tradeoff between the desirable and undesirable consequences of disclosure. The desirable consequence is that the provision to creditors of information regarding the bank's condition allows creditors to make better judgments regarding the risk exposure of bank. This forces banks to take such judgments into account ex ante in determining the riskiness of their portfolios, as they should if resource allocation is to be efficient. The main undesirable consequence of disclosure is that information may be revealed that would cause creditors to "run," which would put banks under liquidity pressures and under some circumstances might cause them to fail

even though they remain solvent. An additional undesirable consequence of disclosure is that it may reveal proprietary information of value to the bank that would reduce the incentive of banks to invest in such information.

There is a presumption that private banking markets generate less than the optimum amount of information disclosure even when competition is as strong as it is in international banking. This is because voluntary disclosure by individual banks is discouraged by the potential loss of valuable proprietary information that is not compensated for unless other banks disclose the same information about themselves. In general, neither bank creditors nor regulators tend to disturb the suboptimum level of disclosure. Although in the United States Congress has dictated a higher level of disclosure practice for banks than would have been forthcoming from the market and the regulators, in some aspects of international banking it may, nonetheless, fall short of the optimum.

C. Priorities for Further Research

Since we have described research projects in the course of discussing issues and policy options, we shall conclude by briefly reiterating the projects that we believe will enhance our understanding of public policy problems that arise from the growth of international banking.

(1) To provide an integrated analytical framework, we would integrate the shock-vulnerability to shock model developed in Working Paper 1 with the following analytical building blocks: (a) the relationship of loan maturity to default risk developed in Working Paper 11; (b) disclosure of information on bank condition developed in Working Paper 7, and (c) bank liability for affiliates developed in Working Paper 10.

(2) To delineate likely sequences of events that could lead to financial crises, we would develop a detailed analysis of crisis scenarios beyond those already covered in Working Paper 6. These include insolvency scenarios arising from debt repudiation by one or several major borrowers, a sudden cessation of lending by major international banks, a marked curtailment in oil production, a severe disruption in foreign exchange markets, a serious trade war involving major countries, and an operational breakdown in the international payments clearing system.

(3) To test the vulnerability of selected heavily indebted LDC's, we would simulate--using country models in conjunction with international linkage systems--the effects of specified shocks such as a marked increase in oil prices or contraction in international credit.

(4) To develop a methodology for monitoring the liquidity positions of international banks, we would undertake a set of case studies employing operations analysis at selected international banks.

(5) To test the vulnerability of the existing "conditional liability" system of parental responsibility for affiliates, we would apply shock simulation analysis to a model of the existing system, and also to modifications of the existing system where liability rules are assumed to be different.

(6) To assess the role of capital requirements in an international context, we would examine the feasibility of a coordinated multicountry approach to capital regulation, and the implications of uncoordinated national rules of differing degrees of severity.

(7) To assess institutional and internal organizational characteristics of international banks that encourage or discourage tendencies to distort the real risks involved in international banking, we would undertake a set of case studies of loan and deposit decisionmaking at selected banks.

(8) To assess the risks involved in having foreign-owned banks in the United States, we would study operational techniques that controlling foreign interests can use to "loot" a bank, and methods of preventing looting.

(9) To estimate the number and size distribution of international banks without an effective LLR, we would identify banks headquartered in countries without LLR's, banks in countries where the LLR has insufficient holdings of required currencies, and banks that are affiliates which for some reason may not have access to the parent bank's LLR.

(10) To develop useful proposals for improving the efficiency of the debt renegotiation process, we would model the process using game theory. To assure that the behavioral assumptions incorporated in the gaming analysis are realistic, we would make detailed case studies of the renegotiations of external debt by Nicaragua, Turkey and Poland.

(11) To explore the feasibility of developing a secondary market in foreign loans, we would develop detailed institutional blueprints using models derived from other markets.

(12) To understand how Eurocurrency markets contribute to exchange rate instability, we would estimate the degree of substitutability between Euro-dollar and Euromark deposits, and between Eurodeposits and comparable national deposits.

APPENDIX A

Topical Outline Organized in Terms of Issues and Options

Policy Toward International Banking Vulnerability

ISSUE: Is international banking significantly more risky than domestic banking?^{6,7}

- A. Differences in regulation.
- B. Foreign exchange risk.
- C. Country risk.
- D. Individual credit risk.
- E. Political risk.
- F. Concentration of claims.
- G. Loan losses.
- H. Organizational structure and limited liability.
- I. Diversification.

ISSUE: In light of potential future shocks to the world economy, are the capital positions of major international banks adequate?^{6,7}

- A. Role of capital in bank soundness.
- B. Measures of capital position.
- C. Trends in capital positions.
- D. Cross-country comparisons.
- E. Do declining capital ratios imply declining bank soundness?
- F. The case for capital regulation.
- G. International aspects of capital regulation.

OPTION: Should the United States regulate the capital positions of large U.S. banks and/or attempt to negotiate or coordinate efforts among major countries to regulate capital of international banks?

- A. Problems of unilateral regulation.
- B. Multilateral requirements establishing uniform formats.
- C. Obtaining multilateral agreement on capital ratios.
- D. Developing a uniform measure of risk exposure.
- E. Regulation or disclosure?

ISSUE: To what extent does the possibility of locating banks across national boundaries in jurisdictions with no or lax regulation contribute to excessive risk in international banking?

ISSUE: Do the principles of international supervisory cooperation set forth in the Basle Concordat provide an adequate regulatory framework for all major international banks? To what extent are these principles now being observed?

(Footnote references are to members of the research team with primary responsibility for the topic. See page I-65 for list.)

ISSUE: To what extent is U.S. bank regulatory policy consistent with the Concordat?

ISSUE: Is there any way to monitor or control interbank exposure that would not be excessively costly or cripple the operations of Eurocurrency markets?

ISSUE: Can the U.S. authorities prevent foreign parent banks under severe pressure from looting their U.S. affiliates? If not, what additional measures are needed?

OPTION: Does the United States have good justification for violating the Concordat in assessing the solvency of foreign banks with branches in the United States?

OPTION: Should the United States adopt regulatory principles solely in accord with the Concordat?

OPTION: What should U.S. policy be toward getting information about U.S. bank-owned affiliates in countries that do not allow such information to cross their national boundaries?

OPTION: What should U.S. policy be toward assumption of liability by U.S. banks for their foreign-owned affiliates?

ISSUE: Are the international loan portfolios of major international banks excessively concentrated by country?^{6,7}

- A. Measurement of concentration.
- B. The economic rationale of concentration.
- C. Modeling risk linkages between countries.^{1,9}
- D. Inadequacy of secondary markets.

OPTION: Should the United States publicly disclose information on country exposure of individual banks, and/or attempt to negotiate or coordinate programs to disclose such information?^{6,7}

- A. Bankers' attitudes toward disclosure.
- B. Market reactions.
- C. Problems of unilateral disclosure.

OPTION: Should the United States set quantitative country exposure limits (similar to the traditional 10 percent limit applicable to individual borrowers) and/or attempt to negotiate or coordinate programs to impose such limits?⁷

- A. Rationale and evaluation of the traditional 10 percent rule.
- B. Defining the proper boundaries of a "borrowing unit"--the means and purpose test.

- C. The relevance of country risk.
- D. Problems in unilateral imposition of exposure limits.
- E. Legal aspects of cross-country cooperation on disclosure and country limits.

ISSUE: What is the impact of various shocks to the world economy on the debt-servicing capacity of major borrowing countries?^{1,9}

- A. An increase in oil prices.
- B. An increase in food prices.
- C. A cessation of private bank lending.

ISSUE: What is the impact on the U.S. economy of a cessation of private bank lending to less-developed countries?^{1,9}

- A. Impact on exports.
- B. Impact on the banking system and financial markets.

ISSUE: Is it likely, within the next decade, that major international banks will find it necessary to consider rescheduling sizable amounts of debt owed by one or more large international borrowers?^{7,8}

- A. Measuring debt burdens.
- B. Trends in debt burdens.
- C. Cross-country comparisons.
- D. Assessing the costs and benefits to borrowers of the default option.
- E. Default as a legal concept.¹¹
- F. Inferences regarding the likelihood of major rescheduling operations.

OPTION: Should the United States develop a set of explicit principles to guide debt renegotiations and/or attempt to negotiate or coordinate programs to develop and implement such principles?⁷

- A. Debt reschedulings with private as opposed to government creditors.
- B. Role of the International Monetary Fund (IMF), Paris Club, World Bank, etc.
- C. Determining the optimum intervention point.
- D. Supervisory and tax treatment of arrearages and loans during and after the rescheduling process.

- E. International coordination of supervisory and tax treatment of arrearages and loans during and after the rescheduling process.^{6,7,11}

ISSUE: In the event that one or more major international banks becomes insolvent, are adequate mechanisms available for minimizing the social costs associated with such insolvency?^{6,7}

- A. The concept of "economic solvency."
- B. The concept of "legal solvency."¹¹
- C. Supervisory determination of solvency.
- D. Disposition of insolvent banks through liquidation, merger or continuation with financial assistance.
- E. Determining a bank's "going concern value" as an input to the disposition decision.
- F. Social costs associated with unstructured (private market) dispositions of insolvent banks.

OPTION: Should the United States take the lead in seeking an agreement among major countries on the allocation of responsibility for disposing of insolvent international banks and/or the creation of institutional mechanisms for this purpose?^{6,7}

ISSUE: In the event of a major liquidity crisis among large international banks, would existing LLR facilities prove adequate?^{6,7}

- A. Allocation of responsibilities among national central banks.
- B. International banks without adequate LLR's.
- C. Crisis scenarios requiring LLR facilities.
- D. LLR's and supervisory controls.

OPTION: Should the United States take the lead in developing an explicit set of principles for LLR assistance and/or attempt to negotiate or coordinate an effort to develop such principles?^{6,7}

- A. Allocation of LLR responsibilities versus allocation of supervisory responsibilities.
- B. Support mechanisms for assuring that responsibilities can be met.
- C. Policy toward banks that do not have an adequate LLR.

D. Crisis scenarios that even effective LLR's cannot handle adequately.

ISSUE: Would a system of world deposit insurance significantly reduce the probability of a worldwide banking crisis?^{6,7}

- A. Liability coverage: international versus domestic systems.
- B. Country coverage.
- C. Dealing with moral hazard.
- D. Establishing credibility.

OPTION: Should the United States take the lead in promoting the development of a comprehensive deposit insurance system covering major international banks?

ISSUE: Does the growth of the Eurocurrency market exacerbate world inflation, undercut U.S. monetary control and/or unduly delay the international adjustment process?⁵

- A. Causes of growth of the Eurocurrency market.
- B. Relation of Eurocurrency deposits to the monetary aggregates.
- C. Impact of U.S. monetary policy on the Eurocurrency market.
- D. Impact of Eurocurrency market disturbances on U.S. monetary conditions.
- E. The role of the Eurocurrency market in transmitting economic disturbances.
- F. Role of Eurocurrency lending in the balance-of-payment adjustment process.

OPTION: Should the United States attempt to regulate and control the Eurocurrency market and/or attempt to negotiate a set of controls with the other major countries?⁵

- A. Obstacles to effective regulation.
- B. Reserve requirements against liabilities or assets.
- C. Minimum capital ratios.

ISSUE: Does the existing organizational structure of international banking, consisting mainly of branches, wholly owned affiliates and partially owned affiliates make the system more or less vulnerable to major shocks, relative to alternative organizational arrangements?

- A. The organizational decision process of individual banks.

- B. The role of "comfort letters" and explicit guarantees.
- C. Asymmetrical behavior of governments toward foreign-owned affiliates.
- D. Conditions under which parent banks can and conditions under which they cannot avoid liability.

OPTION: Should the United States attempt to control the organizational form used by U.S. banks abroad, and/or other arrangements they select to assume or disavow liability, or attempt to negotiate agreements with other countries on this issue?

Policy Toward Exchange Rate and International Reserve Arrangements

ISSUE: What factors have influenced the diversification of foreign-exchange reserves and are likely to influence diversification in the future?^{3,4,5}

- A. Forces leading to reserve diversification during the 1970's.
- B. The role of instability in the value of the dollar.
- C. The role of the relative decline of the U.S. economy in the world economy.
- D. The role of financial innovation and official policies in the emerging reserve-currency countries such as Germany and Japan.

ISSUE: What factors might make the diversification process disorderly?^{3,4,5}

- A. Interactions between portfolio shifts by official monetary authorities and portfolio shifts by private investors.
- B. Scenarios that might generate a run on the dollar.

OPTION: What should U.S. policy be toward large-scale, disorderly conversions out of dollars by foreign monetary authorities?^{3,4}

- A. Allow the dollar to depreciate without official support of the exchange rate.
- B. Support of the exchange rate with cooperation of the monetary authorities in the Group of Ten.
- C. Issuance of U.S. Government securities denominated in the foreign currencies sought.
- D. Imposition of exchange controls.

ISSUE: How will a multiple-reserve currency system affect U.S. interest? What are the implications of such a system?^{3,4,5}

- A. For exchange-rate stability?
- B. For the working of the international adjustment process?
- C. For the impact of international disturbances on the U.S. economy?
- D. For the conduct and effectiveness of U.S. monetary policy?
- E. For the framework of international monetary cooperation developed in the postwar period?
- F. For the ability of the United States to achieve its foreign policy objectives?

OPTION: Should the United States resist the trend toward a multiple-reserve currency system?^{3,4,5} What are the costs and benefits of alternative mechanisms to increase the willingness of foreign monetary authorities to maintain or increase the share of dollar-denominated assets in their holdings of reserve assets?

- A. Maintenance of stability of the purchasing power of the dollar.
- B. Preferential interest rates to foreign monetary authorities.
- C. Exchange-rate guarantees to foreign monetary authorities.

OPTION: Should the United States accept or encourage the trend toward a multiple-reserve currency system?^{3,4,5} What policies can best minimize the strains on the exchange markets during the transition?

- A. Benign neglect.
- B. Provision of U.S. Government securities directly to foreign monetary authorities denominated in the currencies they wish to acquire.
- C. Negotiation of a set of principles with major official holders of dollars regarding the timing and volume of conversions of dollars into foreign currencies.

OPTION: Should the United States accept the movement out of dollar reserve assets, but seek to promote a shift into SDR-denominated claims through a substitution account rather than into other foreign currencies?^{3,4,5}

- A. Should participation in a substitution account be voluntary or compulsory?
- B. Should substitution facilities be one-shot operations or available on a continuing basis?
- C. How should dollars deposited in a substitution account be used?

- D. What obligation should the United States accept with regard to dollars deposited in the account?
- E. How should the value of the substitution account assets be maintained?

OPTION: Should the United States seek to regularize the role of gold in the international monetary system?³

- A. Should the process of demonetizing gold be formalized?
- B. Should gold be remonetized? At what price?

Control of the Volume of International Reserves

ISSUE: What forces have determined the total volume of international reserves and are likely to influence it in the future?^{3,10}

- A. Purchases of foreign exchange by monetary authorities in the course of exchange-market intervention.
- B. The role of the Eurocurrency market.
- C. The role of gold.
- D. The role of the IMF and the SDR.

ISSUE: What general purposes would be served by greater official control over the volume of international reserves under the present managed floating rate system?^{3,10}

- A. What is the relation between the global volume of reserves and world inflation?
- B. What is the relation between the global volume of reserves and the monetary and fiscal policies adopted by surplus and deficit countries?
- C. What is the relation between the global volume of reserves and exchange-rate adjustments?
- D. What is the meaning of the "adequacy" of global reserves or of a "shortage" or "excess" under a system of managed floating?

OPTION: Should the United States support proposals to increase the degree of official control over the supply of global reserves? What are the costs and benefits to the United States of greater reliance on "outside" reserve assets?^{3,5,10}

- A. The substitution account as a mechanism for controlling global liquidity.

- B. Imposition of SDR reserve requirements against aggregate reserve holdings by individual countries.
- C. Imposition of limits on reserve accumulations.
- D. The rehabilitation of gold as the central reserve asset.

Exchange-Rate Arrangements

ISSUE: Do current, informal exchange-rate arrangements best serve U.S. interests in terms of protecting the U.S. economy from foreign disturbances, facilitating the international adjustment process, and maintaining the competitiveness of U.S. industry?¹⁰

- A. The current institution structure of mixed floating and fixed exchange.
- B. The key determinants of the foreign exchange value of the U.S. dollar.
- C. The exchange-rate constraint on monetary policy.
- D. The response of the foreign-exchange value of the dollar to real and monetary shocks.
- E. The impact of monetary and nonmonetary disturbances on the U.S. economy under alternative exchange-rate arrangements.
- F. The costs of exchange-rate volatility.

OPTION: Should the United States discourage the development of new currency arrangements such as the European Monetary System, crawling pegs and basket pegs? Should the United States oppose exchange-market intervention in dollars?^{10,5}

- A. How do currency groupings and pegging practices affect the pattern and volume of U.S. trade, prices and employment?
- B. How do currency groupings and pegging practices affect the response of the international system to disturbances such as oil shocks or fluctuations in employment?
- C. How does the choice of intervention currency affect the impact of international disturbances on the U.S. economy?
- D. How does the sterilization policy accompanying an intervention operation affect the impact of international disturbances on the U.S. economy?

OPTION: Should the United States adopt an intervention policy that is responsive to the perceived sources of disturbances and the intervention arrangements of other countries?¹⁰

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- A. If some intervention is warranted, which exchange rate or exchange rates should be stabilized?
- B. If intervention is warranted, should a distinction be made between repetitive disturbances such as shifts in portfolio behavior by the private sector and unusual events such as the oil embargo in 1973 or between real and monetary disturbances?
- C. If intervention is warranted, should the type of asset used in intervention operations vary with the perceived source of the disturbance?

OPTION: Should the U.S. seek to increase the effectiveness of IMF surveillance and influences on exchange-rate practices?¹⁰

- A. Developing objective analytical procedures for assessing the appropriateness of exchange-rate practices.
- B. Sanctions against countries with excessive balance-of-payments surpluses.
- C. Sanctions against countries with excessive balance-of-payments deficits.

ISSUE: Is exchange-rate stability possible without coordination of macro-economic policies among the leading industrial nations?^{9,10}

- A. What are the gains from policy coordination?
- B. What are the mechanisms by which policy coordination could be achieved?

Policy Toward Financial Problems of Less-Developed Countries

ISSUE: Will IMF stabilization programs continue to play an important role in the international balance-of-payments adjustment process?^{2,1}

- A. Competition and cooperation between commercial lenders, official lenders, and the IMF.
- B. The effectiveness of IMF stabilization programs.
- C. The impact of stabilization programs on growth of LDC's.
- D. The adequacy of IMF resources.

OPTION: Should the United States enhance the attractiveness of IMF stabilization programs to borrowers by supporting the provision of more funds at longer maturities?^{2,1}

- A. The credibility problem.
- B. Lags in adjustment.
- C. Costs of delay in adjustment.
- D. The appropriate relation between the IMF and the World Bank.

OPTION: Should the United States attempt to promote a greater emphasis on supply-side measures in IMF stabilization programs?^{2,1}

- A. The relation between supply-side policies and growth.
- B. The relation between supply-side policies and income distribution.
- C. The political obstacles to supply-side policies.

ISSUE: What are the impediments to increasing the access of LDC's to international financial markets?

- A. Legal and institutional inhibitions.
- B. Availability of information on factors affecting credit-worthiness.

OPTION: Should the United States encourage cofinancing between private lenders and the World Bank or IMF?

OPTION: Should the United States offer loan guarantees on LDC loans and/or attempt to negotiate or coordinate an international effort to develop such guarantees?

OPTION: Should the United States offer technical assistance on accessing bond markets to potential LDC borrowers?

ISSUE: What factors determine the debt-servicing capacity of less-developed countries?^{8,2,7}

- A. The determinants of credit rationing by lenders.
- B. The importance of enforcement mechanisms and bankruptcy procedures in reducing risk aversion in lenders.
- C. Measures of savings and investment.
- D. Caveats on the interpretation of conventional debt-service indicators.
- E. The importance of trade.

OPTION: Should the United States attempt to help less-developed countries increase their debt-servicing capacities by improving the flow of information regarding the determinants of debt-service capacity or increasing sanctions against foreign borrowers that renege on loan contracts?^{8,2}

- A. Costs and benefits of official involvement in private lending.
- B. The advantages of multilateral versus unilateral action.

Policy Towards the Use of International Financial Sanctions

ISSUE: What are the economic and legal dimensions of financial power and vulnerability?¹¹

- A. Power of debtors to repudiate loans.
- B. Power of creditors to invoke contractual sanctions including the declaration of default.
- C. Power to withdraw deposits.
- D. Power to destabilize exchange rates.
- E. Power to block or freeze assets.
- F. Power to block international payments.
- G. Power to expropriate assets.

ISSUE: What data are required to measure financial power and vulnerability of each type listed above?

ISSUE: What can be inferred from currently available data regarding the power and vulnerability of the United States vis-a-vis specific countries or groups of countries?

- A. Canada
- B. China
- C. Eastern Europe
- D. Cuba
- E. Major LDC borrowers
- F. OPEC countries
- G. South Africa
- H. Soviet Union
- I. Western Europe

OPTION: Should the United States collect the additional data required for reasonably accurate judgments regarding the comparative financial power and vulnerability of the United States vis-a-vis any of the countries or groups of countries listed above?

OPTION: Should the United States explicitly disavow the use of any of the financial sanctions it now possesses?

OPTION: Should the United States take any measures to coordinate or control any of the financial powers it now has which reside largely in private hands?

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- | | |
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APPENDIX B

NSF WORKING PAPERS

<u>No.</u>	<u>Name</u>	<u>Title</u>
1	Guttentag/Herring	A Framework for the Analysis of Financial Disorder
2	Guttentag/Herring	The Lender of Last Resort Function in an International Context
3	Guttentag	Capital Positions and Capital Regulation of International Banks
4	Guttentag/Herring	Behavioral Aspects of Increasing Bank Vulnerability
5	Guttentag/Herring	Proposals for an International System of Deposit Insurance
6	Guttentag/Herring	Crisis Scenarios
7	Guttentag/Herring	Country Risk, Legal Lending Limits, and Disclosure
8	Guttentag/Herring	Dealing with Insolvent International Banks
9	Guttentag/Herring	The Riskiness of International Banking
10	Guttentag/Herring/ Mundheim	Organizational Aspects of Vulnerability
11	Herring	Commercial Banks in the Debt Renegotiation Process
12	Guttentag/Herring	Bank Regulation in an International Context
13	Adams/Klein	Modeling International Risk Linkages
14	Adams/Behrman	Policies of International Financial Agencies Toward Developing Countries
15	Bloomfield/Ethier	International Reserve Arrangements
16	Grabbe	Implications of the Eurocurrency Markets for Macroeconomic Policy
17	Kaufold	The Analytics of Borrowing by Less Developed Countries: Measurement and Interpretation

APPENDIX B (Continued)

<u>No.</u>	<u>Name</u>	<u>Title</u>
18	Guttentag/Herring	The Management of Phase I
19	Marston	Exchange Rate Arrangements and International Reserves: Implications for U.S. Policy
20	Guttentag/Herring	Interactions with the Policy Community During Phase I
21	Guttentag/Herring	A Framework for Formulating Disclosure Policy
22	Grabbe	The Future of International Reserve Arrangements

U.S. OPTIONS FOR MODIFYING THE INTERNATIONAL MONETARY SYSTEM

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I. Summary

The Princeton University research group undertook three tasks during Phase I. It conducted new research on the international role of the dollar and on threats to the stability of Eurocurrency markets. It developed an agenda for research in Phase II. It worked on ways to communicate with the policy community.

In our work on the role of the dollar, we tried to measure changes in the use of the dollar as an international unit of account, means of payment, and store of value. We found some reduction in the use of the dollar for invoicing merchandise trade but not much change in other private uses--in the foreign-exchange markets or financial markets. The dollar continues to be the main intervention currency, but there have been reductions in other official uses; diversification has reduced its importance as a reserve currency, and the shift to more flexible exchange rates has reduced its importance in defining parities. Applying recent research on optimal portfolios, members of the research group found sharp short-term changes in the dollar components of optimally diversified portfolios, especially in the early years of floating exchange rates, but no clear trend in those components.

In our proposal for Phase II, we listed three subjects for research. We planned more work on international banking, new work on the international ramifications of domestic economic policies, and work on issues related to the size and functioning of the International Monetary Fund (IMF). Reviewing those proposals, I conclude that we took too calm a view of banking problems--that work on risk reduction and contingency planning must give way to work on crisis management and the consolidation of less-developed countries' (LDC) debts. I also add one subject to our list--research on ways of limiting exchange-rate fluctuations.

This paper concludes with brief comments on some of the problems encountered by the research group and on the design of the experimental research program.

*This paper is based on materials transmitted in the Phase I Report prepared by the research group at Princeton University under the terms of NSF Grant 8116473, in the research memoranda attached to that report, and in the group's Phase II proposal. It was drafted by the author, however, without consulting other members of the research group, and they are not responsible for the selection or interpretation of the materials in this paper. All rights to the paper reside with the National Science Foundation.

II. Introduction

This paper has four parts. I begin by describing briefly the objectives that the Princeton University research group set for itself in Phase I of its work. Next, I present some of its research results, giving particular attention to my own work on the role of the U.S. dollar as an international currency. Thereafter, I list and discuss the major policy issues identified by the research group in the course of its own work and in discussions with members of the policy community. In the final section, I comment briefly on some problems encountered by the group in responding to the design and requirements of the experimental research program.

III. The Agenda of the Research Group

In Phase I of its work, the research group undertook three tasks. First, it conducted new research on two topics--the role of the U.S. dollar as an international currency, and threats to the stability of the Eurocurrency markets. Second, it attempted to construct an agenda for future research--to identify policy issues on which it should concentrate in Phase II of its work. Third, it sought ways to communicate effectively with members of the policy community.¹

In our proposal for Phase I, we called attention to three recent changes in the character of the international monetary system.

First, there has been a significant increase in the number and variety of actors. In the 1960's, the system was dominated by a small number of industrial countries with similar interests in the functioning of the system. In the 1970's, members of the Organization of Petroleum Exporting Countries (OPEC) and other less-developed countries became important actors, the former as holders of reserves and the latter as borrowers. Furthermore, commercial banks and other private institutions expanded their activities to an extent that gave them significant influence on national policies and on the functioning of the system as a whole.

Second, additional currencies became important for the system. At the end of 1975, the dollar accounted for 88 percent of the currency reserves of industrial countries; by 1980, its share had fallen to 79 percent. In 1975, the dollar accounted for 70 percent of the reserves of nonindustrial countries; by 1980, its share had fallen to 58 percent.² These numbers do not measure diversification precisely. I will come back to the problem of interpretation. Most observers agree, however, that diversification has gone far enough to give us a multiple reserve-asset system. There has been diversification in private markets too, and the changes in official and private practices, taken together, have altered the role of the dollar as an international currency.

Third, the choice between financing and adjustment, which used to be influenced heavily by the supply of reserves available to deficit countries, is influenced more heavily today by access to credit in international financial markets. Therefore, banks and other private institutions have come to play a major role in balance-of-payments adjustment. The growth of bank

lending has also posed new policy problems. Many observers have expressed concern about the consequences of a default by a major borrower or failure by a major bank. The growth of the interbank market, moreover, has probably increased the sensitivity of the entire system to an isolated shock, even one that does not appear at first glance to be international in character.

The first observation led us to suggest that research should focus on the functioning of the present system and ways of improving it, rather than a grand design for reform of the system. As the system has so many actors and dimensions, it would be hard to write a new "constitution" and even harder to obtain agreement on one. The second and third observations led us to propose exploratory work on two aspects of the system:

(1) The changing role of the dollar as an international currency, emphasizing its role as a reserve currency. Work on this issue will include evaluation of the outlook for further diversification of official reserves and implications for the international adjustment process, exchange-rate flexibility, and the conduct of national monetary policies. It will be based in part on recent research concerning optimal portfolios, adapted and applied to portfolio management by central banks. It will also extend research already done on the design of a substitution account.

(2) Threats to the stability of the Eurocurrency markets, their implications for prudential regulation, and the roles of the central banks as lenders of last resort. Work on this issue will include research on the structure of the markets, emphasizing the interbank market, on the likelihood of default by developing countries, and on other shocks that could jeopardize stability. It will examine measures to reduce the threats to stability, as alternatives to more intensive regulation or guarantees of central-bank support.³

We indicated that research in Phase I would gather information and identify opportunities for further work. The delineation of policy options could take place only in Phase II, with the help of comments from the policy community regarding our assessments of trends and issues, the economic interests of the United States, and the feasibility of various options.

The group did not finish all of the work proposed in the paragraphs quoted above. Our work on the role of the dollar, for example, came to focus on its use in private markets; for reasons given in the next part of this paper, we did not get as far as planned with work on official diversification and its policy implications. Our consultations with officials, moreover, led us to postpone work on the design of a substitution account. The group's work on the Eurocurrency markets looked at most of the matters mentioned above, but it is unfinished. We did not spell out concretely the steps that might be taken to forestall default; we did not complete our work on central-bank support; we did not even start work on one of our objectives, the design of a model of the Eurocurrency markets. But parts of our agenda have been overtaken by events. One would want to revise it rather than complete it. I come back to this observation later in this paper.

IV. The International Role of the Dollar

We followed two approaches in our work on the role of the dollar.

(1) We assembled and reviewed available data on the uses of the dollar as a unit of account, means of payment, and store of value in the international monetary system, to see what could be said about trends and issues. (2) We calculated optimal portfolios for U.S. and international consumer-investors, to measure the shares of the dollar in such portfolios and to compare optimal with actual portfolios held by U.S. commercial banks.

A. The Functional Approach

In my own work, I adopted the standard typology, cross-classifying uses by function and by sector:

<u>Function</u>	<u>Sector</u>	
	<u>Private</u>	<u>Official</u>
Unit of Account	Currency used in invoicing merchandise trade	Currency used in defining parities
Means of Payment	Vehicle currency in foreign-exchange markets	Intervention currency in foreign-exchange markets
Store of Value	Currency in which deposits, loans, and bonds are denominated	Currency in which reserves are held

I collated data on three of these six uses--in the invoicing of trade, in the denomination of deposits, loans, and bonds, and in the definition of parities. Before reporting my results, I comment briefly on the other three.

A few years ago, the dollar was the dominant currency in foreign-exchange markets. It was the vehicle currency for foreign-exchange traders moving from one currency into another. In 1979, 90 to 99 percent of all foreign-exchange transactions took place through the dollar in the London, Zurich, and Frankfurt markets.⁴ Before starting new work on this subject, I discussed the situation with central bankers and foreign-exchange dealers. They said that the percentages have not changed appreciably.

As most foreign-exchange trading goes through the dollar, one should not be surprised to find that it is the principal intervention currency for central banks and governments. This was true a few years ago, and those with whom I discussed the matter said that it is true today.⁵ There is only one noteworthy exception. Participants in the exchange-rate arrangements of the European Monetary System (EMS) are obliged to intervene directly in EMS currencies when exchange rates reach the limits set by those arrangements. But they may use the dollar for discretionary intramarginal interventions, and they do so frequently.

In brief, informal investigation caused me to conclude that there has been no major change in the role of the dollar as the chief vehicle and intervention currency in the foreign-exchange markets, and I saw no need to take the matter farther.⁶

There has been significant change in the use of the dollar as a reserve currency. Figures cited earlier make this very clear and show that diversification has been widespread. It has not been confined to OPEC countries and other less-developed countries, as is sometimes said, although those countries started earlier and have gone somewhat farther. Additional data are given in Table 1. The share of the dollar in total reserves rose from 1970 to 1975, but this was due mainly to the "liquidation" of sterling as a reserve currency. (Its share fell from five to one percent in the reserves of industrial countries and from 20 to seven percent in those of nonindustrial countries). Diversification away from the dollar began before 1975. The industrial countries did not start to acquire the "new" reserve currencies--the mark, Swiss franc, and yen--until 1978. Their mark holdings remained between three and four percent of their foreign-exchange reserves in 1975-77. They rose to 11 percent in 1980-81. The nonindustrial countries started earlier. Their mark holdings began at two percent in 1970, rose sharply in 1972-73, fell back to nine percent in 1975, and rose again to 15 percent in 1980-81. (Their holdings of Swiss franc and yen rose from three percent in 1975 to ten percent in 1980-81.)⁷

Table 1. Share of the Dollar in Official
Foreign-Exchange Reserves, 1970-1981

Year	Industrial Countries	Nonindustrial Countries
1970	85	57
1975	88	70
1976	84	73
1977	89	69
1978	86	61
1979	84	62
1980	79	58
1981	79	59

Source: Group of Thirty, How Central Banks Manage Their Reserves, 1982, pp. 30-31.

We had planned extensive statistical work on official diversification and analytical work on its implications for the monetary system and for U.S. policies. Three considerations led us to postpone that work. (1) We became increasingly skeptical about the quality of the published data and the information that it can convey. (2) We did not want to ask for additional unpublished data until we could indicate clearly what use we could make of it. (3) The Group of Thirty was planning to solicit information and opinion from a large sample of central banks, and we wanted to see the results of that exercise before planning our own work.⁸

The published statistics summarized above have rather serious defects and are hard to interpret. There are two major defects. First, some central banks do not report their currency holdings to the IMF (the source of the published data). Second, some governments hold foreign currencies that are not included in their reserves. (Some of these holdings show up in data published by the Bank for International Settlements (BIS) on official balances held in the Eurocurrency markets. When BIS data on mark holdings in those markets are combined with Bundesbank data on mark holdings in Germany, total official holdings of marks turn out to be much larger than those published by the Fund.) The problems of interpretation are even more worrisome. I can illustrate them by three examples involving two countries, Germany and Spain, which use the dollar to peg their exchange rates.

(1) Both countries start out holding dollars. Germany holds \$7 billion. Spain holds \$2 billion. Spain decides to diversify and sells \$1 billion for marks. Germany buys the dollars to prevent its currency from depreciating. Spain winds up with 50 percent of its reserves in dollars, but the share of the dollar in total reserves falls by only ten percentage points. German reserves rise to \$8 billion, and so do German dollar holdings. Spanish reserves stay at \$2 billion, but Spanish dollar holdings fall to \$1 billion. The share of the dollar in total reserves drops from 100 to 90 percent.

(2) Germany starts out with \$8 billion of dollar reserves, but Spain starts out with \$1 billion of dollar reserves and \$1 billion of mark reserves. These are the amounts held at the end of the previous example, and the share of the dollar in total reserves is 90 percent. Let Germany run a \$2 billion balance-of-payments deficit (i.e., use \$2 billion of dollar reserves to keep its currency from depreciating). Let Spain run a \$2 billion surplus (i.e., acquire \$2 billion of dollar reserves to keep its currency from appreciating). Suppose that Spain wants to keep 50 percent of its reserves in dollars. It must sell \$1 billion for marks, and Germany will buy the dollars. German reserves fall from \$8 billion to \$7 billion, and so do German dollar holdings. Spanish reserves rise from \$2 billion to \$4 billion, but Spanish dollar holdings rise from \$1 billion to \$2 billion. The share of the dollar in total reserves falls from 90 to 81.8 percent.

(3) The two countries start with the quantities of dollars and marks that they held at the start of the previous example, but market forces cause the mark to appreciate by 20 percent in terms of the dollar. If Spain does not adjust its dollar holdings immediately, the share of the dollar falls. Nothing happens to German reserves, but the dollar value of Spanish reserves rises to \$2.2 billion because of the 20 percent increase in the dollar value of its mark holdings. This reduces the share of the dollar in total reserves from 90 to 88.2 percent.

The term "diversification" has been used to cover all of these events. In the first example, however, there is a clear shift away from the dollar. Its size, moreover, is larger than the resulting reduction in the share of the dollar, because German reserves grow when Spain diversifies, and Germany cannot diversify its own reserves. In the second example, there is no such shift. The decline in the share of the dollar is due to a redistribution of reserves from a country with a high dollar share to one with a low dollar

share. In the third example, there is a shift away from the dollar, as Spain does not buy dollars to avoid a change in the composition of its reserves. But the shift does not involve any sale of dollars in the foreign-exchange market.

We can be sure that there has been some diversification of the sort illustrated by my first example--sales of dollars for other currencies. The survey by the Group of Thirty cites reasons given by the central banks involved. In the process, it draws a distinction that proves to be important in another context. It is the distinction between diversification motivated by an expectation that the dollar will depreciate and diversification motivated by an increase of uncertainty about future exchange rates. Some central banks mentioned expectations that the dollar would depreciate. Others stressed the increase of uncertainty itself, which they traced to the advent of floating exchange rates.⁹

The work I did on other uses of the dollar underscores the importance of this distinction. Changes in the use of the dollar in international trade and in international financial markets are, I believe, more readily explained by the increase of uncertainty induced by the change in the exchange-rate regime than by short-term fluctuations in actual exchange rates.

Research on the use of the dollars as a unit of account started with Grassman's work on Sweden.¹⁰ He showed that the Swedish krona is the currency most often used to invoice Swedish exports; the dollar came in second but was very far behind, and sterling was less important than the mark. His study, however, dealt with just one year. It does not trace changes in the use of the dollar. Studies for other industrial countries must be used instead. They are summarized in Tables 2 and 3.

In all instances, the data confirm Grassman's finding. The exporter's own currency is more important than the dollar. In most instances, moreover, it became more important between 1972 and 1976, and the importance of the dollar fell. The story on the import side is striking too. One would not expect the importer's currency to dominate the data. (It should not be more important than the exporters' currencies in invoicing imports from other industrial countries, given the large role of the exporters' currencies shown in the export data.) Nevertheless, the importer's currency dominates the dollar in three of the six cases in Table 2, and the dollar dominates the importer's currency in only one such case.¹¹

The decline in the role of the dollar that took place on the export side is frequently ascribed to the depreciation of the dollar that started in 1971. The data do not support this explanation. In all six cases covered by Table 2, the share of the dollar fell after the dollar began to depreciate. But look at the data in Table 3. In most cases shown there, the share of the dollar was slow to recover when the dollar appreciated again, and the recovery was incomplete (the share was lower in 1976 than in 1971 or 1972). More telling, there is just one case (Belgium) in which the share of the dollar dropped significantly in or after 1977, when the dollar started to depreciate again. In the German case, the share of the dollar rose after

Table 2. Currency Distribution of Exports and Imports, Selected Years

Country and Year	Exports			Imports		
	Exporter's Currency	U.S. Dollar	All Other	Importer's Currency	U.S. Dollar	All Other
Belgium:						
1972	47.3	11.9	40.8	29.9	18.3	51.8
1976	47.8	12.0	40.2	26.5	25.1	48.4
1979	44.2	12.5	43.3	28.4	23.4	48.2
Denmark:						
1972	46.0	16.0	37.0	21.0	21.0	58.0
1976	54.0	14.0	32.0	25.0	23.0	52.0
1979	51.0	16.0	33.0	27.0	27.0	46.0
France:						
1972	59.4	10.3	30.3	31.5	15.6	52.9
1976	68.3	9.4	22.3	31.5	29.1	39.4
1979	62.4	11.6	26.0	35.8	28.7	35.5
Germany:						
1972	84.1	6.5	9.4	49.9 ^a	18.6 ^a	31.5 ^a
1976	86.9	5.0	8.1	42.0 ^a	31.3 ^a	26.7 ^a
1979	82.6	7.2	10.2	43.7 ^a	30.5 ^a	25.8 ^a
Italy:						
1972	50.7 ^{a,b}	28.3 ^{a,b}	21.0 ^{a,b}	22.5 ^a	32.1 ^a	45.4 ^a
1976	39.1 ^a	27.9 ^a	33.0 ^a	16.0 ^a	42.5 ^a	41.5 ^a
1979	na	na	na	na	na	na
Netherlands:						
1972	44.2	13.2	42.6	24.3	17.7	58.0
1976	50.2	13.0	36.8	31.4	22.7	45.9
1979	42.9	19.0	38.1	29.1	31.5	39.4

Sources: Data for all countries except Italy from S.A.B. Page, "Currency Invoicing in Merchandise Trade," National Institute Economic Review, August 1977 (primary sources given there); updated from unpublished compilation supplied by Ms. Page. Data for Italy from Hans-Eckart Scharrer, "Currencies and Currency Hedging in German Foreign Trade," Studies on Economic and Monetary Problems and on Banking History, 18, Deutsche Bank, 1980 (primary sources given there).

^aBased on payments data

^b1971

Table 3. Currency Distribution of Exports, 1971-1980

Country and Currency	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980 ^a
Belgium:										
Exporter's currency	46.2	47.3	49.9	53.0	50.9	47.8	45.8	44.4	44.2	40.4
U.S. dollar	14.5	11.9	9.7	8.2	10.0	12.0	14.6	12.6	12.5	13.8
Other currencies	39.3	40.8	40.4	39.7	39.1	40.2	39.6	43.0	43.3	45.8
Denmark:										
Exporter's currency	41.0	47.0	52.0	54.0	54.0	54.0	54.0	53.0	53.0	47.0
U.S. dollar	22.0	16.0	15.0	14.0	13.0	13.0	14.0	16.0	16.0	14.0
Other currencies	37.0	37.0	33.0	32.0	33.0	33.0	32.0	31.0	31.0	39.0
France:										
Exporter's currency	na	59.4	66.4	68.3	69.1	68.3	65.4	64.1	62.4	na
U.S. dollar	na	10.3	8.7	8.8	8.2	9.4	10.9	11.2	11.6	na
Other currencies	na	30.3	24.9	22.9	22.7	22.3	23.7	24.7	26.0	na
Germany:										
Exporter's currency	na	84.1	85.5	88.3	89.2	86.9	86.0	83.6	82.6	82.3
U.S. dollar	na	6.5	5.3	3.8	4.4	5.0	6.2	7.4	7.2	7.2
Other currencies	na	9.4	9.2	7.9	6.4	8.1	7.8	9.0	10.2	10.5
Netherlands:										
Exporter's currency	44.4	44.2	45.3	46.3	50.0	50.2	48.6	49.4	42.9	43.5
U.S. dollar	16.7	13.2	10.1	13.2	15.0	13.0	15.8	11.9	19.0	16.5
Other currencies	38.9	42.6	44.6	40.5	35.0	36.8	35.6	38.7	38.1	40.0

Sources: See Table 2.

^aFor Germany, first three calendar quarters; for other countries, first half year.

1976, and the increase took place at the expense of the mark. The Danish, French, and Dutch cases are similar.¹² It would therefore appear that the decline in the use of the dollar in international trade reflected the increase of uncertainty attending the change in the exchange-rate regime.

What can be said about the use of the dollar in invoicing trade with the United States and with third countries? In bilateral trade between Germany and the United States, the exporter's currency dominates, but the share of the dollar in German exports to the United States is higher than in exports to any other destination (and much higher than in exports to other industrial countries). I have pieced data together from several sources to look at the shares of the dollar in other countries' exports. The results are summarized in Table 4, and the patterns are similar to the German pattern. The dollar is still used extensively, however, in invoicing the exports of less-developed countries. Its share is much larger than that of the mark in German imports from those countries.¹³

Table 4. Percentage of Exports Invoiced in Dollars, 1976

Exporter	Exports to	
	United States	Third Countries
Belgium	57	10
France	45	8
Germany	34	3
Italy	46	27
Japan	89	75
Netherlands	68	11
United Kingdom	52	12

Source: P.B. Kenen, "The Role of the U.S. Dollar as Unit of Account and Means of Payment in International Trade," International Finance Section Research Memorandum, 1981, Table 6.

I turn next to the role of the dollar as store of value in the Eurocurrency and Eurobond markets. I am not concerned here with the share of the dollar in optimal or actual portfolios. I have argued, in fact, that Eurocurrency statistics cannot say much about those shares, because important pieces are missing from each data set.¹⁴ They cannot say much about the banks' portfolios, and they can say even less about their customers' portfolios. There are additional problems, including two illustrated earlier in this paper. Many banks participate in the Euromarkets, and it would be foolish to suppose that they are identical in needs or preferences. Therefore, the share of the dollar in bank claims can be affected by the distribution of those claims--by the relative size and number of participating banks having a strong preference for dollar claims. It is also affected by exchange rates, and my work focused on this possibility.

The basic Eurocurrency statistics are shown in Table 5, and they appear to show a significant decline in the importance of the dollar. These figures,

however, measure nondollar claims in dollar equivalents and are therefore affected by the large exchange-rate changes that took place in the 1970's.

There are two ways of dealing with this problem. Both start by converting nondollar data back into national currency units. The first procedure keeps them in those units and measures the rate of growth in the use of each currency. The second procedure reconverts them into their dollar equivalents using constant exchange rates and computes percentages analogous to those in Table 5. The first procedure is illustrated here by looking at the claims of Eurocurrency banks. The second is illustrated by looking at new issues in the Eurobond market.

Table 5. Dollar Claims of European Banks: Percentage of Total Foreign-Currency Claims on Nonresidents at End of Year

Year	All Claims	Claims on Nonbanks
1970	77	72
1971	71	68
1972	74	70
1973	70	64
1974	73	66
1975	74	67
1976	73	69
1977	70	67
1978	68	66
1979	67	67
1980	69	68

Source: P.B. Kenen, "The Role of the U.S. Dollar as Store of Value in International Financial Markets," International Finance Section Research Memorandum, 1982.

Here are average rates of change in the banks' foreign-currency claims on nonresidents measured in national currency units:¹⁵

U.S. dollar	24.0
Deutsche mark	20.7
Swiss franc	16.9
Pound sterling	41.0
Dutch guilder	25.3
French franc	21.6

There has been no significant decline in the use of the dollar to denominate bank claims. The rate of increase in the quantity of dollar claims was larger than the rates of increase in the quantities of mark, French franc, and Swiss franc claims and about the same as the rate of increase in the quantity of guilder claims. Furthermore, the rate of growth in the quantity of dollar claims has been much more stable; its variance was smaller than any other variance. The apparent decline in the use of the dollar shown by Table 5 was due mainly to valuation changes rather than a shift to the use of other currencies.¹⁶

Turning to new issues in the Eurobond market, I compare in Table 6 the shares of dollar issues measured at current and constant exchange rates. When measured at current exchange rates, the share of dollar issues in the total falls somewhat from 1970 to 1980. When measured at constant exchange rates, it is lower at the start of the period, falls when the dollar weakens in 1971-72 and 1977-78, but is higher at the end of the period than it was at the beginning. The use of the dollar is sensitive to exchange-rate fluctuations, but it has not diminished over time.

Table 6. Dollar Issues in the Eurobond Market as Percentages of Dollar and Deutsche mark Issues at Current and Constant Exchange Rates: All Issuers Except U.S. and International Institutions.

Year	Current Exchange Rate	Constant Exchange Rate
1970	70	61
1971	60	52
1972	62	56
1973	63	60
1974	70	69
1975	58	58
1976	77	77
1977	65	66
1978	47	52
1979	65	71
1980	69	75

Source: Same as Table 5. Constant exchange rates are those for 1975.

Standing back from the detail, it would seem right to draw these general conclusions:

(1) The role of the dollar in international financial markets has not fallen sharply in recent years, and there is thus no urgent need to defend it, even if that role is deemed to be important to the interests of the United States. There has been some significant movement toward a multiple currency

monetary system and, more narrowly, a multiple currency reserve system, but that tendency has not cut deeply into the use of the dollar as a store of value in international markets.

(2) It is clear, nonetheless, that periods in which the dollar was weak saw temporary cutbacks in its use, and these in turn probably intensified its weakness, as well as interfering with the smooth functioning of international financial markets. Greater exchange-rate stability could therefore contribute to the long-term usefulness of the dollar as an international currency.

One other point emerged from my inspection and analysis of the Eurocurrency statistics. Eurocurrency lending has grown less rapidly than international bank lending in domestic currencies. The reasons and implications are not altogether clear. Has there been a relaxation of restrictions that limit onshore lending? Has this form of lending been stimulated by official export-credit guarantees? Does it reflect an increase in international lending by smaller banks? Does it call for any shift in the focus of discussions concerning the official supervision of international bank lending?

Finally, I have studied the use of the dollar as a unit of account in the official sector of the monetary system--its use in setting parities for national currencies--by examining the exchange-rate regimes of less-developed countries.¹⁷ These are my findings:

There has been a sharp decline in the use of the dollar as the unit of account for pegging exchange rates. In 1974, 61 out of 98 countries pegged their currencies to the dollar, and their imports accounted for 72 percent of the total imports of the 98 countries. During the next seven years, 33 countries "defected" from this group and they were comparatively large. Nine countries joined the group, but they were comparatively small. By 1981, then, only 37 countries pegged their currencies to the dollar, and their imports accounted for just 20 percent of the total imports of the 115 countries included in the survey for 1981.

It should be noted, however, that none of the "defectors" adopted another national currency for pegging (and that there were defectors from other currencies too). Most of the defectors adopted basket pegs, indicators, and other exchange-rate regimes (some let their currencies float). The change in the role of the dollar as a unit of account was a byproduct of the move to more flexible exchange rates on the part of less-developed countries--a move mirroring the one by developed countries.

The decline in this use of the dollar looks to be larger than the decline in any other, but it is not especially important for U.S. policy. The main policy issue comes up tangentially. The exchange-rate practices of less-developed countries are more important than their exchange-rate regimes in determining the effective exchange rate for the dollar. It would therefore be useful to examine their policies, especially those of the newly industrializing countries (NIC's), from this standpoint. The effective exchange rate for the dollar may be affected more heavily by countries that peg to the dollar but change their pegs frequently than by those that peg

to baskets but give large weights to the dollar or by those that do not peg at all but manage their currencies in ways that keep their dollar rates stable.

B. The Optimal Portfolio Approach

An optimal portfolio is one that a risk-averse investor will select to maximize utility, given the investor's demands for goods (expenditure shares), expectations about real returns, and the effects of inflation and exchange-rate fluctuations on the volatility of real returns. Calculations of optimal portfolios can be used for several purposes:

- To show how optimal portfolios will differ from holder to holder, depending on each holder's demands for goods, expectations, and attitudes toward risk;
- To show how optimal portfolios will differ from date to date because of changes in the holder's expectations and revisions in the variance-covariance matrices of price and exchange-rate changes;
- To show how optimal portfolios differ from actual portfolios and identify the reasons for the differences;
- To design "currency baskets" for various investors and financial instruments and to judge the optimality of actual baskets, such as the special drawing right (SDR) and European Currency Unit (ECU), from the standpoints of their holders.

Work done by our research group concentrated on the first three applications--identifying differences from holder to holder resulting from differences in demands for goods, tracking optimal portfolios through time, and comparing optimal portfolios.¹⁸

An optimal portfolio can be divided into three components: the capital position depends on the investor's expenditure shares; the inflation-hedge position depends on those shares, on the variance-covariance structure of asset-price changes, and on interactions between asset-price and goods-price changes; the speculative position depends on expected real returns and on the variance-covariance structure of asset-price changes. The capital and inflation-hedge positions add up to the minimum-variance portfolio, and the total portfolio is therefore a weighted sum of the minimum-variance portfolio and the speculative portfolio. (The lower the degree of risk aversion, the larger the weight attached to the speculative portfolio.)

Table 7. An Optimal Portfolio for an International Consumer-Investor (Currency Shares)

Currency	Total Portfolio	Components	
		Minimum Variance	Speculative
Canadian dollar	8	16	-8
French franc	15	16	-1
Deutsche mark	16	15	1
Italian lira	2	7	-5
Japanese yen	17	12	3
Swiss franc	2	2	0
Pound sterling	10	11	-1
U.S. dollar	25	19	6
Gold	5	2	3

Source: J. de Macedo, et al., "International Portfolio Diversification," International Finance Section Research Memorandum, 1982, Table 3.

In Table 7, I show an optimal portfolio for an international consumer-investor. It is based on actual prices and exchange rates for the eight-year period starting in April 1973, when exchange rates began to float, and ending in March 1981, and on actual nominal interest rates for the three-month holding period starting on April 1, 1981.¹⁹ The international consumer-investor has long positions in all assets. There are, of course, positive capital positions in the eight currencies. There are long inflation-hedge positions in two currencies and gold, and short ones in five currencies (the mark, lira, yen, Swiss franc, and U.S. dollar). There are long speculative positions in the mark, yen, U.S. dollar, and gold, and short speculative positions in four currencies.

An American consumer-investor, one who does no spending on other countries' goods, would have a capital position containing only U.S. dollars but the same speculative position as an international consumer-investor. Here is the share of the dollar:

Capital position.....	100
Inflation-hedge position.....	-10
Speculative position.....	6
Total position.....	96

The American consumer-investor takes a small short position in the mark and in the Swiss franc.

If an international consumer-investor had designed an optimal portfolio in March 1975, using information on prices and exchange rates available since April 1973, the share of the dollar would have been 36 percent. Its share

in the capital position would have been 25 percent, its share in the inflation-hedge position -22 per cent, and its share in the speculative position 33 percent. A year later, however, the same consumer-investor would have taken a short speculative position in the dollar, and the share of the dollar in the total portfolio would have fallen to two percent. In Table 8, I show the evolution of that share as additional information becomes available. The share of the dollar falls sharply in 1976, when the dollar was strong in foreign-exchange markets, but does not fall in 1977-78, when the dollar was weak.²⁰

Table 8. Shares of the Dollar in Optimal Portfolios

Latest Year	Consumer-Investor	
	International	American
1975	36	126
1976	2	89
1977	21	94
1978	20	93
1979	23	93
1980	21	90
1981	25	96

Source: J. de Macedo, et al., "International Portfolio Diversification," International Finance Section Research Memorandum, 1982, Table 6.

V. Policy Issues for Future Research

Basing its choices on work done in Phase I, on staff discussions, and on consultations with members of the policy community, the research group identified three sets of issues likely to pose major policy problems for the United States:

(1) The management of risk and preservation of liquidity in the international banking system;

(2) The international effects of domestic macroeconomic policies and their implications for the conduct of those policies;

(3) The role and evolution of the International Monetary Fund in light of developments affecting the reserve system and balance-of-payments adjustment process.

If asked to make my own choices, I would pick these same issues but would add a fourth. It may be time to consider modifications in the exchange-rate regime aimed at reducing short-term fluctuations in nominal and real rates.

The group's proposal for research on international banking built on work done in Phase I. Its agenda included additional work on risk assessment by banks and by bank supervisors, on measures to reduce the likelihood

of default, and on ways to maintain the liquidity of the system as a whole in the event of a default, bank failure, or other shock. We planned to develop in detail a proposal put forth in our Phase I Report, that the U.S. authorities, acting unilaterally, should guarantee in part the liquidity of foreign banks' deposits with U.S. banks and their overseas affiliates.

The second and third subjects would have extended the group's work. We chose the second because we believe that the international ramifications of U.S. policies have become increasingly important for the behavior of the U.S. economy. Key policymakers are sensitive to them, but many members of the policy community continue to regard the United States as a closed economy when discussing monetary and fiscal policies. We chose the third because the Fund and its members must make far-reaching decisions concerning Fund quotas and borrowing, the SDR, and other matters that will affect the future of the institution. The United States must approach them consistently, asking how they will affect the role of the Fund in the international system and the role of the United States within the Fund itself.

A. International Banking

Our proposals for research on this subject took a rather long-run view. They dealt with ways to reduce the probability of crises and with contingency planning. One of us, for example, had developed a model designed to show formally how banks assimilate information, including information about a "catastrophe" (an event such as a default or bank failure whose probability cannot be measured by examining recent experience).²¹ He planned to extend his work--to show how the functioning of capital markets can be improved by increasing the flow of information about borrowers and to develop "crisis scenarios" helpful in designing policy responses. Two of us, working separately, had looked at ways to minimize the likelihood of default and had come to similar conclusions. Risks can be reduced by the clear threat of punitive responses if creditors announce them in advance. The creditors must do so jointly, however, and tailor their responses to the particular circumstances of the debtors.²² Members of the group had planned to extend this work--to spell out concretely the measures that creditors can take and examine their applicability to the hardest case, Eastern Europe, where economic and political circumstances make it very difficult for creditors to develop and announce joint responses.

Joint responses are required in other contexts too. Bank supervisors, for example, must take a common view when judging the effects of a rescheduling on the banks' portfolios. Central banks may have to review the stance they have adopted as lenders of last resort. In conversations with bankers and officials, one of us found strong support for the "studied ambiguity" of the present stance--the refusal by central banks to state clearly the steps they would take in particular cases. To do so might invite misbehavior by their clients or expose gaps in their plans. I found a different view, however, when analyzing answers to a questionnaire circulated by the Group of Thirty. Bankers favored a "clearer understanding" about lender-of-last-resort facilities. Several questions arise in this connection:

- (1) Does every bank have access to a lender of last resort? What about the consortium banks and banks from less-developed countries that have become very prominent in recent years?
- (2) Does every central bank have access to the funds it may require? Do central banks in less-developed countries have the foreign-currency reserves required to deal with a sudden call on the foreign-currency obligations of their commercial banks? Can the problem, if there is one, be resolved by new swap arrangements?
- (3) Do central banks agree about the nature of the problem? Can they draw the distinction that is emphasized so often between "liquidity" and "solvency" problems? Can they act effectively on that distinction? Are some so much concerned with "moral hazard" and "adverse selection" that they are likely to withhold support from one bank in order to teach other banks a lesson?

Recent events have underscored the importance of these questions. Those same events, however, convince me that we should have taken a more urgent view of certain problems and added others to our list.

Thus far, reschedulings of bank claims have given the debtors some short-term relief and have done no significant damage to the net worth or liquidity of the creditors. But this is another way of saying that they have postponed problems rather than resolving them. If we had reason to believe that debtors face better economic prospects in the next few years--that export earnings will rise sharply and debt burdens will fall on account of a large drop in interest rates--we might be content with postponement. I am not that optimistic. Accordingly, I believe that work must be done urgently on new ways to handle the debt problem.

There must be a significant reduction in debt burdens, which entails a reduction in the present value of the creditors' claims and, therefore, partial indemnification by the banks' own governments. An aid component must be built into debt rescheduling.²³ One can think of many institutional devices, including the creation of national or multinational funds that would buy up bank claims on borrowers at less than face value and renegotiate their terms with the borrowers. The banks should not come out whole. Imprudence must be penalized. But the borrowers must pay a price too. They must not be allowed to pile up new short-term obligations as soon as old ones have been consolidated. This may mean, in turn, a larger role for official institutions, especially the IMF, in balance-of-payments financing.

B. International Ramifications of Domestic Policies

In the standard literature on economic policies for open economies, exchange rates are "assigned" to external balance and monetary policies to internal balance. When capital mobility is high, however, this assignment

is unstable and should be modified.²⁴ These notions animate recent work on the United Kingdom, where the exchange-rate appreciation caused by domestic policies has been the cutting edge of those policies.²⁵ They may likewise apply to the United States, where the appreciation of the dollar since 1980 has probably contributed significantly to the domestic effects of monetary policy. The increase in unemployment during the current recession has reflected an abnormally large number of job losses rather than temporary layoffs. Employers blame the losses on import competition rather than the recession, but it may be impossible to separate these causes. Both are due in part to the appreciation of the dollar, and it is partly due in turn to domestic policies.²⁶ (By implication, the policy mix now in the offing for the United States--large budget deficits combined with a restrictive monetary policy--may be more costly than its critics realize.)

Other forces influence exchange rates. Many observers have criticized and tried to explain the short-term volatility of floating rates. In recent congressional testimony, however, three witnesses (Bergsten, Dornbusch, and Kenen) drew attention to another problem--the tendency for nominal and real rates to trace a medium-term cycle.²⁷ It is easy to build a formal model that generates this sort of cycle. In a standard portfolio-balance model, the rate of change of the nominal exchange rate depends on the level of the current-account balance. In most current-account models, the level of the current-account balance depends on lagged levels of the real exchange rate. When these relationships are put together, and asset prices adjust faster than goods prices, nominal and real rates can oscillate over the medium term. This possibility requires empirical investigation. If there is a medium-term cycle rooted in fundamental behavioral relationships, the costs and benefits of floating exchange rates should be reassessed. The costs of short-term volatility may not be high, but the costs of medium-term oscillations may be much larger. They can affect economic activity. They can aggravate protectionism and destabilize trade policies.

Another issue arises from those listed here. It may be appropriate for the U.S. authorities to take a more active stance in foreign-exchange markets. Much work has been done on the theory and practice of intervention,²⁸ but more is needed. Advocates of intervention credit it with two effects: it alters the quantities of currencies available in the foreign-exchange markets, and it alters expectations held by private participants. Critics say that changes in the quantities of currencies can be achieved directly by monetary policy, while changes in expectations can endure only if they are validated by domestic policies. The first criticism is based on suppositions about risk aversion (and is related to another assertion--that sterilized intervention cannot affect exchange rates). The second is based on suppositions about the formation of expectations.

Our research group contemplated two types of work on exchange rates and domestic policies. We planned to build and use econometric models focused on the links between domestic policies and the short-run behavior of exchange rates. We would have extended my own exploratory work on the two relationships mentioned above--the contemporaneous portfolio-balance relationship between the change in the nominal exchange rate and the level of the current-account balance, and the lagged relationship between the

levels of the balance and the real rate. We planned work on risk aversion in international financial markets. By matching optimal with actual portfolios, it may be possible to measure the degree of risk aversion and, therefore, the size of "the" risk premium. We expected these two strands of work to shed light on the sensitivity of exchange rates to monetary policies and to intervention, and also to reunite two strands of work stemming from portfolio theory--the portfolio-balance approach to exchange-rate determination and research on optimal portfolios.

C. The Role of the International Monetary Fund

The institutional agenda of the IMF will call for a number of policy decisions during the next several years. Our proposal focused on two sets of issues.

First, we planned work on the role of the Fund in the financing of imbalances and, therefore, the size and financing of the Fund itself. These issues used to be decided together when quotas were reviewed, but they have been separated in recent years. Members can draw sums much larger than their quotas, and the Fund has borrowed from some of its members to supplement its own resources. These practices raise major problems--economic and political. But it may not be possible to discontinue them--especially if I am right about the proper approach to the debt problem and its implications for the role of the Fund. If the Fund must play a large role in the financing of imbalances and primary reliance is placed on quotas to determine drawings and mobilize resources, great importance will attach to the distribution of quotas (and these also determine voting rights). The basic problem can be put differently. It may be impossible to return to traditional practices without reducing severely the growth of the Fund. Another issue should be examined in this context--the possibility of Fund borrowing in private markets. Would the Fund "crowd out" some of its members? Should it use its gold as collateral? Would Fund borrowing make private markets more familiar with the SDR and promote its use--and would this be desirable?

Second, we planned work on the evolution of the reserve system, with particular attention to these questions:

- (1) Should we expect additional reserve diversification?
- (2) Would a multiple reserve-asset system be dangerously unstable, as its critics charge, or could it induce more timely and symmetrical balance-of-payments adjustment?
- (3) Could diversification be halted by creating a substitution account of the sort discussed a few years ago? What would be the costs and benefits to the United States?
- (4) What does diversification imply for the role of the SDR as a reserve asset? What are the costs and benefits, for example, of holding the SDR, which is a fixed basket of currencies, compared to those of devising one's own basket?

(5) Can the SDR be made more attractive? Would this be advantageous from the U.S. standpoint?

(6) Is there a role for the SDR in the Fund itself, even if it does not start to become the "principal reserve asset" in the monetary system? Would it be possible and useful, for example, to forge closer links between the General and SDR Departments of the Fund?

Some of these questions are being studied in the Fund, but they also have to be studied from the standpoint of the United States.

D. Limiting Exchange-Rate Fluctuations

At the start of this section, I added one issue to the list presented by the research group in its Phase II proposal. It may be time to consider an agreement among the major industrial countries to limit fluctuations in key exchange rates.

I have already listed some of my reasons for raising this issue--the sensitivity of nominal and real exchange rates to domestic monetary policies, the tendency for nominal and real rates to trace a medium-term cycle, and the significant effects of exchange-rate changes on economic activity, even in the United States. I have likewise listed one of the questions that must be considered before the issue can be decided. How much can be achieved by official intervention? But other questions must be answered too.

What sorts of rules should be used to reduce exchange-rate fluctuations? Many rules have been suggested. Some threaten to substitute rigidity for stability. I am attracted by the reference-rate proposal,²⁹ but only if it can be amended*by including rules to adjust the reference rates themselves. In other words, rules to reduce exchange-rate fluctuations must be combined with rules of the gliding-parity sort designed to provide long-term flexibility in real and nominal exchange rates.

What methods should be used to keep exchange rates inside the bands set by the new rules? Intervention would be needed but might not suffice. It may be necessary to coordinate monetary policies much more closely, and this is not easy. How does one compare, let alone coordinate, policies based on money-supply targets with those based on other targets? Should targets be standardized or abandoned completely? Should serious consideration be given to proposals like those by Tobin and Dornbusch,³⁰ that would "throw sand in the system" by taxing foreign-exchange transactions or taxing interest-sensitive capital flows?

VI. Conclusion

This paper has not followed strictly the outline suggested by the sponsors of the colloquium. In this conclusion, moreover, I will go a bit beyond that outline and mention some problems we encountered in our work on the experimental project.

The key terms in the title of the project gave us trouble from the start. What "options" should we consider? Should we look only at those that the United States can exercise unilaterally or should we consider options that require negotiations and joint action? If multilateral options are included, should we attempt to assess their acceptability to other governments? What is meant by "modifying" the monetary system? Should we concentrate on grand designs for long-run reform, on piecemeal improvements in present arrangements, or on damage limitation? Does the "monetary system" mean the formal framework defined by the Articles of Agreement of the International Monetary Fund or does it include the totality of arrangements that govern the activities of banks, foreign-exchange dealers, and so on?

We had another question: To whom should we address our results? The policy community is heterogeneous. It includes staff economists who are thoroughly conversant with technical issues and are themselves engaged in research on international monetary problems. It includes senior officials in the executive branch and Members of Congress who need to know the issues and options but should not be subjected to the jargon in which economists converse. The difficulty goes beyond language. If talking primarily to other economists, we should presumably address issues and options broadly and direct careful attention to the assumptions and caveats that always qualify research results. If talking primarily to senior government officials, we should presumably concentrate on specific policy initiatives.

When we raised these and other questions with NSF staff, we were told that we should try to answer them ourselves--and that our Phase I results would be judged in part on the way we did so. This reply was not unfair, but it did not necessarily lead to the best use of our resources and may not have produced the best Phase II proposals viewed from the standpoint of the policy community.

The broad scope and great size of the project posed another problem. Our own choice of issues--those that we described as most important from the standpoint of the policy community--was necessarily influenced by our interests and experience. Although our Phase II proposal made room for visitors to complement and supplement the staff at Princeton, we had to rely mainly on that staff. One critic of our Phase II proposal said that the work we planned was work we would do anyway. That is not strictly true. Some will be done in one form or another. Some will not. The criticism, however, probably derives from the problem that we faced. Academics have their own research priorities. These are hard to modify, even with the promise of long-term research support. We had therefore to compromise between the intrinsic importance of issues and the willingness of staff to work on them.

My final comment is related to this one and to one made earlier. Much more thought should be devoted to the appropriate division of labor between research groups like our own and those within the government. I can make this same point by suggesting another way to organize this sort of research project. The first phase would concentrate heavily on the articulation of research projects potentially useful to the policy community, rather than the articulation of policy options. This phase would be followed by a

sorting-out process, involving the participants and government officials, to choose the subset of projects on which nongovernmental institutions can work most effectively, in close consultation with their official counterparts. In the final phase, those projects would be distributed to the institutions best equipped to execute them, not assigned to a single institution on a winner-take-all basis.

The approach adopted by the NSF staff has advantages, and we learned a lot from our participation. But the alternative has merit too.

NOTES

1. I will say nothing here about this third task; it is discussed in the group's Phase I Report and its Phase II proposal.
2. The share of the mark rose from 4 to 11 percent in the industrial countries' reserves and from 9 to 15 percent in the nonindustrial countries' reserves. See Group of Thirty, How Central Banks Manage Their Reserves, 1982, pp. 30-31.
3. The passages below come from the abstract that covered our proposal for Phase I of the research project.
4. The figure for Paris was 60 percent, down from 70 percent in 1970; all percentages based on central-bank data published in Group of Thirty, Foreign-Exchange Markets under Floating Rates, 1980, p. 15.
5. See also Group of Thirty, How Central Banks Manage Their Reserves, 1982, which summarizes central-bank responses to a questionnaire and says that the dollar is the "only intervention currency for all practical purposes" (p. 4).
6. Let me call attention, however, to a policy problem arising from the use of the dollar for intramarginal interventions by EMS countries. Although they may be undertaken to influence exchange rates among European currencies, they necessarily affect exchange rates for the dollar. If the U.S. authorities continue to believe that dollar rates should be determined by market forces, they should perhaps urge the use of European currencies whenever interventions are undertaken to influence exchange rates among European currencies. Dollar interventions could then be regarded as attempts to influence dollar rates and, therefore, as a proper subject for consultation with the U.S. authorities.
7. All numbers cited in this paragraph come from the same source as the data in the table.
8. The results were published in the Group of Thirty paper, How Central Banks Manage Their Reserves, which appeared just before the submission of our Phase I Report.
9. One G-10 central bank pointed out that periods of dollar strength could induce additional diversification, rather than discouraging diversification, because central banks could move out of the dollar "with more ease and less embarrassment to the United States" (How Central Banks Manage Their Reserves, p. 11).
10. S. Grassman, "Currency Distribution and Forward Cover in Foreign Trade," Journal of International Economics, May 1976.

11. In one of the remaining cases (Denmark), the importer's currency was slightly more important in 1976; in the other (The Netherlands), the dollar overtook the importer's currency in 1979. Note that the share of the dollar rises on the import side from 1972 to 1976 (and goes on rising to 1979 in three cases). This is probably due to the influence of the increase in the price of oil, as oil is typically traded against dollars.
12. The Japanese data tell a different story. The share of the dollar in Japanese exports fell sharply in 1975-1980 but was unusually high initially.
13. The share of the dollar in imports from Latin America exceeds 75 percent, and its share in imports from Africa and Asia exceeds 50 percent. The share in imports from Arab countries is about 95 percent, because of the use of the dollar in the oil market. See Hans-Eckart Scharrer, "Currencies and Currency Hedging in German Foreign Trade," Studies on Economic and Monetary Problems and on Banking History, 18, Deutsche Bank, 1980. For more on the invoicing of trade in primary products, see S.A.B. Page, "The Choice of Invoicing Currency in Merchandise Trade," National Institute Economic Review, November 1981.
14. See P.B. Kenen, "The Role of the U.S. Dollar as Store of Value in International Financial Markets," International Finance Section Research Memorandum, Princeton University, 1982.
15. These pertain to total claims; claims on nonbanks cannot be broken down by currency. The figures are simple averages of annual changes.
16. There is, of course, a danger in using quantities to measure changes in the role of the dollar. Suppose that the quantity of dollars had risen hugely in the monetary system because the United States was "printing" money at a rapid rate. The role of the dollar measured by quantity would have to rise somewhere in the system, as someone would have to hold the dollars. But the share of the dollar in portfolios would probably fall, because the dollar would depreciate. I cannot rule out this interpretation of the data but have doubts about its relevance here. It would hold strictly with respect to money backed by "outside" assets, and Eurocurrency claims should probably be treated as "inside" assets (even though some are claims on governments).
17. P.B. Kenen, "The Use of the U.S. Dollar in Pegging Exchange Rates," International Finance Section Research Memorandum, Princeton University, 1982. This work was based on the classification of exchange-rate regimes provided by the International Monetary Fund, and it is based in turn on information supplied by the governments.
18. This work was done by Jorge de Macedo, Jeffrey Goldstein, and David Meerschman and is described in J. de Macedo et al., "International Portfolio Diversification," International Finance Section Research Memorandum, Princeton University, 1982. I take full responsibility, however, for this summary.

19. The expenditure shares (and capital position) are equal to the trade shares of the corresponding countries:

Canada	8
France	12
Germany	19
Italy	8
Japan	14
Switzerland	3
United Kingdom	11
United States	25

As goods are not priced in gold, it has no expenditure share and does not enter the capital position. Its share in the minimum-variance portfolio is its share in the inflation-hedge component. In this and subsequent calculations, the minimum-variance and speculative portfolios are given equal weight in constructing the total portfolio.

20. This may testify to the importance of changes in the variance-covariance matrices, along with changes in real returns, in determining the optimal portfolios. It may also call attention, however, to the backward-looking nature of the calculations. They are based on retrospective estimates of expected returns and of the variance-covariance matrices. They do not drop old information as they add new information. A graduate student at Princeton, Judith McDonald, has computed optimal portfolios using forward-looking methods. The consumer-investor has a three-month holding period. Real returns are projected for each three-month period using both rational and adaptive expectations. The variance-covariance matrices are based on data for actual exchange-rate and price changes in the recent past. These methods may not conform exactly to the assumptions in the model used to define an optimal portfolio and produce the formulae for currency shares, but they may be better than using retrospective data to calculate expected rates of return. McDonald's calculations, however, show huge quarter-to-quarter fluctuations in the shares of the dollar and the mark, larger than those seen in actual portfolios of U.S. commercial banks. For more on the issues raised in this note, see J. Tobin, "The State of Exchange Rate Theory: Some Skeptical Observations," in R.N. Cooper et al., eds., The International Monetary System under Flexible Exchange Rates, Cambridge, MA: Ballinger, 1982, pp. 123-126.
21. J.D. Germany, "Policy Issues in the Eurocurrency Markets," International Finance Section Research Memorandum, Princeton University, 1982.

22. See Germany, op. cit., Policy Issues . . . , and J. Eaton, "Implications of International Bank Lending for Financial Stability and Regulatory Policy," International Finance Section Research Memorandum, Princeton University, 1982.
23. I was at one time skeptical of proposals for debt relief, as most of the benefits would go to middle-income countries (see P.B. Kenen, "Debt Relief as Development Assistance," in J.N. Bhagwati, ed., The New International Economic Order, Cambridge: MIT Press, 1977). I am changing my mind, because the conventional way of dealing with the problem that may face us--a large infusion of central-bank credit to bolster bank liquidity--could interfere with macroeconomic objectives, while loan-guarantee and deposit-insurance programs may not be sufficiently comprehensive (and could prolong unsustainable lending). We have discounted too heavily the risk of a banking crisis. Governments may have to move quickly to prevent one now.
24. This literature is reviewed and criticized in P.B. Kenen, "Macroeconomic Analysis and Policy: How the Closed Economy Was Opened," in R.W. Jones and P.B. Kenen, eds., Handbook of International Economics, Amsterdam: North-Holland, forthcoming.
25. See W.H. Buiter and M. Miller, "The Thatcher Experiment: The First Two Years," Brookings Papers on Economic Activity, 1981(2).
26. On the trade effects of the appreciation, see R.A. Feldman, "Dollar Appreciation, Foreign Trade, and the U.S. Economy," Federal Reserve Bank of New York, Quarterly Review, Summer 1982.
27. Oversight Hearings on U.S. International Monetary Policies, Subcommittee on International Trade, Investment and Monetary Policy of the House Committee on Banking, Finance and Urban Affairs, Washington, 1982.
28. See D.W. Henderson, "The Role of Intervention Policy in Open Economy Financial Policy: A Macroeconomic Perspective," Board of Governors of the Federal Reserve System, International Finance Discussion Papers, 202 (1982), and the sources cited there; also M. Mussa, The Role of Official Intervention, Group of Thirty, 1981, and P.B. Kenen, "Intervention and Sterilization in the Short Run and the Long Run," in R.N. Cooper et al., eds., op. cit. (I understand that new work on this question has been started within the U.S. Government, following the agreement at the Versailles Summit to examine it collectively.)
29. W. Ethier and A.I. Bloomfield, "The Reference Rate Proposal and Recent Experience," Banca Nazionale del Lavoro, Quarterly Review, September 1978.
30. J. Tobin, "A Proposal for International Monetary Reform," Eastern Economic Journal, July-October 1978, and the statement by Dornbusch in Oversight Hearings, cited above.

A SUMMARY REPORT ON RECENT AND PROSPECTIVE
BROOKINGS RESEARCH ON INTERNATIONAL FINANCIAL ISSUES

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I. Introduction and Executive Summary

The work under the Brookings Phase I grant of the NSF program had four integrated elements: (1) intensive consultations with the U.S. policy community, (2) review of the existing literature and of gaps in knowledge about international financial problems, (3) identification and rank ordering of major policy issues confronting or likely to confront the U.S. Government, and (4) design of a research agenda to be flexibly responsive to the needs and priorities of U.S. policymakers. This paper contains an overview of our work in each of these four areas.¹

Our original Phase I proposal, prepared in the spring of 1981, identified seven broad areas in which the U.S. Government would need to reevaluate its international financial policies and for which we would try to delineate issues and alternative policy options. Those seven areas were:

- (1) Institutional evolutions of international organizations;
- (2) Exchange-rate variability and exchange-market intervention;
- (3) Reserve-asset characteristics of the international monetary system;
- (4) Macroeconomic interactions between the U.S. economy and other national economies;
- (5) Roles of the oil-exporting nations in world financial flows and payments imbalances;
- (6) Supervision and regulation of international activities of private financial institutions;
- (7) The international monetary system and the New International Economic Order.

As our work progressed, we became increasingly convinced of the current and prospective importance of interactions between the Western economies and the Soviet bloc nations. That in turn led us to add an eighth area--East-West financial relations--to our list of functional topics to be surveyed in the Phase I work.

In section 4 below, we include a digest of our conclusions about each of these functional areas. We first outline in section 2, however, how we conducted our consultations with the policy community. We also note briefly, in section 3, some underlying themes which recurred throughout our work and which shaped our design of the Phase II research agenda. Section 5 of the

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paper identifies some basic features of the prospective Brookings Phase II program.

II. Consultations with the Policy Community

The Brookings researchers engaged in the Phase I project were convinced that research cannot be helpful to policymakers unless it confronts problems as they actually arise in a policy situation. From the beginning of our Phase I work, therefore, we stressed individual meetings with a variety of policymakers to learn as much as we could about their current concerns and perceptions.

The bulk of the meetings were arranged as working lunches. Each meeting was conducted informally and tailored to the particular expertise and responsibilities of the invited policymaker. Typically, however, the discussion followed a similar pattern. We would begin by inviting the guest to volunteer his views about those current and prospective policy issues in international finance that, in his judgment, most warranted attention. We began the discussions in that manner to ensure that our own views did not prejudice the dialogue at the outset. As much as possible, we tried to learn about the priority concerns of our guest before asking questions of our own.

Such discussions would naturally raise questions about several of the functional areas identified above. Later in the conversation we would then lead the discussion to the remaining areas not discussed earlier. We often asked clarifying questions, but refrained from stating our own views at any length so as to keep the conversation focused on policy needs and priorities as perceived by our guest. If, after our clarifying questions, our guest expressed the judgment that problems in a particular area were of lesser concern, we would then pass on to another topic.

We maintained an informal record of the main points made by each policymaker. In February, after the bulk of the consultations had been completed, a compilation of these notes was prepared to facilitate comparison of the views of the various policymakers and to assist us in designing our Phase II agenda.

During March, in the course of preparing several preliminary versions of the research agenda for Phase II, we recontacted several of those individuals with whom we had earlier surveyed our functional areas. These conversations permitted us to confirm our earlier impressions about priorities and to try out ideas about future projects that would be responsive to those priorities.

When a tentative version of the agenda was in hand, we arranged a final dinner meeting, held on March 30, with a small number of participants from the policy community. The purpose of the dinner was to get feedback from critically placed individuals in the U.S. Government about the appropriateness of our tentative agenda. At the dinner itself, as well as in subsequent reactions to our handout at the dinner from those who had attended, we gleaned further ideas for refining our agenda.

By the conclusion of the Phase I grant, the Brookings research team had devoted substantial resources to canvassing the policy community, interacting with them in a joint process of identifying policy needs and establishing research priorities. Our consultations with policymakers were the single most important ingredient in shaping our thinking, our further reading, and our development of the Phase II proposal.

The process of consultations carried out in the Phase II grant will be continued and amplified during the Phase II grant (see below).

III. Underlying Themes and Problems

Several themes surfaced repeatedly in our Phase I consultations with the policy community and in our in-house attempts to refine reactions to what we heard. These general themes are pertinent to each of the functional areas surveyed in Phase I and are germane for all aspects of the research agenda proposed for Phase II.

A. Increasing Openness of the U.S. Economy.

The economic links between the United States and other nations are currently growing much more rapidly than the American economy itself. A gradual trend toward increasing openness of the U.S. economy has probably been manifest for at least the last hundred years, interrupted only by the two World Wars and the depression of the 1930's. In any case, that trend has been prominent during the last few decades and may have accelerated during the 1970's.

What has been true for the American economy has also been true for the economies of most other nations. Indeed, the trend toward greater interdependence is one of the key economic facts characterizing the world economy as it begins the final two decades of the 20th century.

The most familiar manifestations of the increasing openness of the U.S. economy are those involving international trade in goods and services. U.S. exports and imports have been growing more rapidly than national output. (Correspondingly, the aggregate flow of trade across national borders for the world as a whole has been increasing faster than total world production.) The international debtor-creditor relationships of the U.S. economy are less well-documented and understood than international trade in goods and services. But increases in financial interdependence have been at least as rapid as those for trade, especially during the last decade.

This growing interdependence, not least the financial interdependence, is a major constraint on the formulation of U.S. economic policy. The constraint, moreover, applies to "domestic" policies, not merely the policies directly applicable to international transactions.

Why is the openness of the economy a constraint? The essential reason is that, in an interdependent world economy, the U.S. Government can act independently to adjust its own policy instruments but cannot be assured of close control over its own economy. Indeed, the contrast between de jure sovereignty over national policy instruments and de facto control of national

ultimate targets is the central problem confronting policymakers in any single open economy.

As the openness of a nation's economy increases, policy actions of its government have a greater tendency to spill over into the rest of the world, thereby affecting the ability of other nations to achieve their economic objectives. Similarly, policy actions taken by foreign governments and non-policy disturbances originating abroad can increasingly influence the ultimate objectives of the home nation's economic policy. Increasing interdependence thus makes national policy decisions more difficult to implement and more uncertain in their consequences; the ability of a nation's policymakers to achieve national objectives is undermined.

The financial aspects of interdependence have especially important consequences for U.S. monetary policy. When financial interdependence is extensive and increasing, the Federal Reserve System has increasing difficulties in bringing about conditions in domestic financial markets that diverge greatly from financial conditions in the rest of the world.

Other things being equal, the diminished ability of U.S. policymakers to influence U.S. macroeconomic conditions is unfortunate. Policy autonomy and ability to control the economy, however, are not ends in themselves. And substantial benefits accrue to the United States from economic interdependence--for example, because of the more efficient allocation of resources brought about by international trade and capital movements and the resulting ability of the Nation's residents to enjoy a higher standard of living. Those benefits may--at most times probably do--more than offset the disadvantages associated with diminished controllability.

In earlier decades the United States may have seemed an exception to these points about the constraints resulting from the openness of the economy. For a majority of Americans, the constraints were hidden from view and seemed of little direct consequence to them. In fact, even in the 1950's the U.S. economy was significantly dependent on the world economy, and vice versa. In the 1960's and 1970's the degree of openness increased substantially. Most Americans, having lived through the dramatic consequences of events such as the Arab oil embargo, the Organization of Petroleum Exporting Countries (OPEC) price increases in 1973-74, and the Iranian Revolution in 1978-79, have probably by now abandoned the illusion of economic insulation from the rest of the world. In any case, the reality is not in doubt; the constraints from interdependence will be a major factor determining the evolution of the American economy in the 1980's.

In particular, to conduct sensible fiscal and monetary policies, decision-makers in the U.S. Government must form judgments about the degree of autonomy of U.S. policies and about the impacts of international influences on the U.S. economy and must then use those judgments in shaping policy decisions. If policy is formulated on the basis of exaggerated perceptions of the ability to control American macroeconomic variables, decisions may have consequences quite different from those intended and serious policy mistakes may result.

The international constraints on American policies, while important, are not so dominant as to render U.S. policies a hostage to world economic and financial conditions. Interdependence is not so extensive that there is no scope for divergences between conditions here and abroad. Nonetheless, the scope for such divergences has been perceptibly narrowing. Increasing financial interdependence has been a main driving force underlying this trend. Inescapably, therefore, U.S. policymakers in the 1980's will have to be more and more concerned with the international aspects of their policy decisions.

B. Increasing Pluralism in the World Polity and Economy.

The second underlying theme germane to all the functional areas surveyed in our Phase I work is the phenomenon of "increasing pluralism" in the structure of the world polity and economy. Increasing pluralism involves an expansion in the number of governmental decisionmaking units in the world, a greater diffusion of political and economic power among the existing units, or both at the same time.

Increasing pluralism has been a pervasive secular trend characteristic of all aspects of international relations in the last three decades. The most visible aspects of this secular trend have been the great enlargement in the number of independent nation states in the world and the declining political hegemony of the United States. More fundamentally, however, increasing pluralism has meant the development of a situation in which one nation, or a mere handful of nations, no longer effectively dominates international decisionmaking.

The fact that political and economic power is today diffused more widely among the industrialized Western nations and the Eastern bloc nations than in the 1940's needs no elaboration. It does need to be stressed, however, that the diffusion of wealth and power extends well beyond the Soviet Union, Europe, and Japan. Nor is that broader diffusion solely due to the dramatic increase in the political and economic muscle of the oil-exporting countries. It was true in the 1970's, and could continue to be true in the 1980's, that a number of advanced non-oil developing countries grew more vigorously than the traditional industrial powers.

The trend toward greater pluralism means that a significantly larger number of nations must be involved in policy decisions affecting the world polity and economy. For reasons clearly spelled out in the literature on game theory, decisionmaking in large groups is more difficult than in smaller groups. Moreover, game-theoretic indeterminacies are endemic to the interaction of national policies.

The greater international diffusion of political and economic power thus has an important bearing on the ability of the world to reach cooperative decisions. If only a few nations needed to be involved in negotiations about a particular problem, each could easily learn about the probable behavior of the others, including the likelihood of cooperative decisionmaking. The outcome of bargaining would be more likely to be determinate, and the potential value of cooperation could be more readily perceived. If

many nations must be involved with none of them dominant, however, any learning process has to be more protracted. Perceptions of the potential mutual benefits of cooperation will be less clear, and the outcomes of bargaining may not be determinate.

The difficulties for collective decisionmaking arising from a large number of participating nations are exacerbated by the tendency of most nations to perceive themselves as "small" and to assume that their behavior does not significantly affect the rest of the world. Even if each individual nation behaves rationally in the light of its own objectives and even if all nations share some objectives, the tendency to ignore the consequences of one's actions for others can collectively produce a suboptimal outcome for the world as a whole. The larger the group of nations involved, the greater the probability that some will act as "free riders," and hence the less likely it is that the group of nations will further their common interests.

C. Increasing Importance of International Organizations.

Notwithstanding the immediately preceding points--indeed, in part because of an awareness of those points and a desire to offset their consequences--pressures have gradually but perceptibly increased to strengthen international organizations as a way of promoting intergovernmental cooperation. The willingness to delegate political authority to international institutions is still very limited. But as interdependence and pluralism have both increased, the number and seriousness of "public-goods" problems of an international scale have also grown. Virtually by definition, public-goods problems on an international scale cannot be successfully dealt with if national governments insist on making independent, noncooperative decisions.

As national economies and national financial markets become more integrated, issues about the supply of public goods on an international scale (and the amelioration of "public bads") will continue to become gradually more important relative to issues about domestic governance. It follows from that prediction, furthermore, that international organizations are also likely to continue their gradual evolution from infant institutions to young children.

The theme of gradually evolving international organizations is especially germane for thinking about the "international monetary system." In particular, the International Monetary Fund (IMF) and the World Bank already have functions and responsibilities that touch broadly on many U.S. interests. U.S. policies about the substantive issues handled by these institutions cannot help but be policies about the evolution of the institutions themselves, if only inadvertently.

The growth of international institutions is a theme that surfaces in a central way in all our other functional areas as well. Issues created by the transmission of policy actions and nonpolicy disturbances from one nation to another, and hence the pressures for intergovernmental consultation and cooperation about macroeconomic policies, continuously arise in the context of the OECD and the Bank for International Settlements (BIS). Issues stemming

from the roles of oil-exporting nations in world energy and financial markets have the effect of strengthening institutions such as OPEC. Oil-importing nations feel pressures to establish institutions such as the International Energy Agency. Discrepancies among nations in the regulatory environments for private financial intermediaries induce cross-border private transactions that erode the discrepancies, thereby creating pressures for consultations and cooperation among national regulatory authorities (for example, in the so-called Cooke Committee on Banking Regulations and Supervisory Practices, meeting under the auspices of the BIS). North-South financial issues and East-West financial relations likewise lead to difficult questions about international institutions and their roles in catalyzing intergovernmental cooperation.

D. Analytical Uncertainty about Functioning of the World Economy.

Most thoughtful observers of the world economy would probably agree with our identification of increasing interdependence, increasing pluralism, and gradually intensifying pressures for the strengthening of international institutions as three basic characteristics of the world environment in the 1980's. We now want to stress a fourth, less familiar theme: the extreme inadequacy of our understanding of how the world economy functions in the face of these phenomena.

In our analyses of the functional areas, we repeatedly encountered issues or problems that could not be adequately clarified given our present understanding of how economic forces are transmitted into and out of the United States across our borders. Many types of policy choices turn critically on analysis of the causes or consequences of certain events, where cross-border causes or consequences are a central part of the analysis. To state the obvious: if the foundations for the analyses supporting policy choices are weak, the policy choices themselves cannot be made with any confidence. The inability to cope correctly with the descriptive, analytical aspects of decisions vitiates the normative aspects no matter how skillfully the normative aspects are handled.

To be sure, economists do not adequately understand the functioning of most "domestic" aspects of national economies. On such basic issues as the causes of inflation and low growth in productivity, economic knowledge in recent years may even have failed to keep up with the world of events. It is also a notable fact that macroeconomic theory itself is in a state of ferment on some fundamental issues (e.g., how to analyze expectations, the treatment of uncertainty, "disequilibrium" analysis of markets--some of which clear in the short run by price adjustment but others of which clear by quantity adjustment).

Notwithstanding those weighty considerations, our point here is that economic knowledge is especially weak and uncertain about the cross-border transmission of economic forces. This fact, moreover, has important implications for policy choices--and research about those policy choices. It is the beginning of wisdom about the conduct of policy to acknowledge when an inadequate basis exists for a sound decision. And it would be an especially

great disservice for a research group trying to help policymakers to de-emphasize the basic gaps in our knowledge or to pretend that analysis of international economic policy issues can be cogent and successful before more progress is made in remedying the gaps.

IV. Summary of Conclusions about Functional Areas

The following discussion briefly treats each of our eight functional areas in turn. The summary points here are based upon more extended treatments of the issues in our Phase I Report and its Annexes. Each area subsection concentrates on the policy issues within that area that seem most deserving of further research. To keep this paper short, background analysis, references to the existing literature, and discussion of lower-priority issues have been omitted.

A. Institutional Evolutions of International Organizations.

For reasons noted above, international organizations will play increasingly important roles in future decades. To further U.S. interests in international economic policy, therefore, the United States needs to formulate explicit policies for the desired evolutions of these organizations and to try to encourage those evolutions rather than others.

We concluded from our Phase I consultations and reading that most officials in the U.S. Government (and in foreign governments) have, at best, cloudy "visions" of the future evolutions of international financial institutions. Substantial divergences of view exist even about the existing functions and responsibilities of the IMF, let alone future modifications. Views differ widely about the appropriate differentiation of functions between the IMF and the World Bank. The OECD, the BIS, and the regional development banks receive less attention than the IMF and the World Bank, but visions of the evolutions of those institutions are equally poorly defined.

From among the many aspects of the international financial institutions that could be singled out, two emphases are most worthy of attention in a Phase II research agenda. The first--questions about intergovernmental consultations and cooperation about macroeconomic policies--requires analysis of several different international organizations. The second emphasis is on the single organization of paramount importance in the international monetary system, the IMF.

Some form of consultation about the interaction of national macroeconomic policies currently takes place through the OECD (in particular in the Economic Policy Committee and its Working Party 3), through the IMF (in the annual consultations process, in the "surveillance" of exchange-rate policies, and in Interim Committee meetings), through annual economic summit meetings of the heads of state of the largest industrial countries, through meetings of central bankers at the BIS, and through several other less important channels (e.g., the Group of Ten). It is a basic issue for U.S. policymakers to decide how much and what types of these consultative activities are desirable for the United States. Given that decision, a closely related issue is to decide which institution (or set of institutions) is the most useful channel for such activities.

At present, the OECD, the IMF, and the economic summits are partly complementary and partly competitive in fulfilling this function. Most U.S. policymakers do not have a clear view whether the multiplicity of institutions is beneficial or disadvantageous to U.S. interests. The Phase II projects we have suggested for research in this area would evaluate the relative strengths and weaknesses of the various institutions and clarify some of the benefits and disadvantages to the United States of channeling consultative activity through them.

Interactions of nations' economic policies raise fundamental issues about noncooperative decisionmaking and potential benefits from collective action. Some of these issues are not well understood even at the level of theory. Our analysis of this area has led us to conclude that a few selective research projects on the theoretical aspects--for example, on the design of multilateral agreements that will be self-enforcing in the absence of a supranational policing authority--deserve a place on the Phase II research agenda.

In principle, one might have several alternative visions--not necessarily mutually exclusive--of the evolution of the IMF. It is useful in articulating these visions to make several distinctions. One distinction is that between a lending institution with "financial-intermediary" responsibilities versus an institution with "monetary" responsibilities (that is, having to do with "outside" reserve assets for the world). Another distinction turns on the extent to which the IMF serves as a locus and catalyst for intergovernmental cooperation about macroeconomic policies. Still a third distinction forces one to be more precise about the alternative types of financial-intermediary responsibilities: Should the IMF be a lending institution with short-term revolving assets (the original Bretton-Woods conception of a warehouse offering stored currencies for short-term rental, with all nations as the clientele because surplus and deficit positions alternate over time), or should the IMF, either because of deep-seated structural features of the world economy such as OPEC-nation surpluses or because of goals that are partly humanitarian and therefore income-redistributive, become a financial-intermediary institution lending at long term to persistent borrowers? Merely to make this last distinction is to raise an important issue about the appropriate dividing line between the responsibilities of the IMF and the World Bank.

The differing views held about these distinctions and issues by U.S. policymakers (sometimes explicitly, sometimes only implicitly) have persuaded us to give a prominent place in our Phase II research agenda to analysis of alternative visions of the future of the IMF.

The clarification of alternative possible evolutions for international financial institutions other than the IMF would also be a worthy endeavor. However, it is our judgment--and one that is shared by most U.S. policymakers as well--that the study of those other institutions has a somewhat lower priority at the present time. We therefore plan to focus most intensively on the IMF in the early stages of our Phase II research.

B. Exchange-Rate Variability and Exchange-Market Intervention.

Annex B to our Phase I Report identifies several analytical gaps in knowledge about exchange-rate variability and exchange-market intervention that are of significant interest to U.S. policymakers. In our view, two types of deficiencies in knowledge are especially worthy of future research.

First, far too little is known about the costs and benefits to the United States of medium-run swings in dollar exchange rates such as the extended weakness in 1977-78 and the pronounced strength in 1981-82. (Day-to-day variability is widely agreed to be a less important subject for study.) Such swings may entail costs in the form of misallocations of resources, unwanted pressures on the general price level, and excessive movements in current-account balances and aggregate demand. Benefits may include the fostering of balance-of-payments adjustment and the promotion of better domestic economic policies. Credible empirical analysis of these costs and benefits, however, is lacking. An important reason for this state of affairs is the difficulty of clearly identifying the possible alternative causes--policy and nonpolicy--of changes in exchange rates. Substantial uncertainty also exists about the consequences of exchange-rate movements. To analyze either causes or consequences, a careful study must specify the counterfactual scenarios being contrasted with actual experience.

The second important gap in knowledge is economists' uncertainty about how much scope exists for official exchange-market intervention. If securities denominated in dollars and other major foreign currencies were very good substitutes for one another, so-called sterilized intervention might have small or even negligible effects on dollar exchange rates (and on other macro-economic variables of interest). Substantial doubt also exists about the time pattern of effects of intervention; it is possible that exchange rates and other variables can be significantly affected in the short run but that the effects dissipate over a medium or long run.

Because of these two gaps in analytical knowledge, many policy decisions confronting the U.S. Government must be made in relative ignorance. Because of uncertainty about the costs of exchange-rate variability, policymakers cannot confidently decide whether to adopt policy actions to offset unexpected movements in exchange rates. Because of uncertainty about the causes and consequences of exchange-rate changes, policymakers may not have a sound basis for choosing a policy remedy even if they judge the consequences of rate changes to be adverse. Uncertainty about the appropriate policy remedy is especially great if it is thought that exchange-market intervention itself may have only modest effects.

The most important policy issue for the United States directly in this area is the question of exchange-market intervention: to what extent, under what types of circumstances, and with what objectives in mind should the U.S. authorities engage in intervention? Between the spring of 1981 and the early summer of 1982, it was U.S. policy to forswear a discretionary approach. Instead of trying to differentiate among events, by type and by origin, that might and might not justify intervention, the policy was to adopt the rule of thumb of no intervention except in emergency circumstances. This policy was controversial, especially with foreign governments.

A closely related set of issues is the posture that the U.S. Government should adopt toward the intervention policies of foreign governments and the steps that U.S. officials might take to discourage other countries from undesirable intervention or to offset the effects of such intervention if it occurs.

Most policymakers with whom we consulted, including those who supported the 1981-82 U.S. position, believed that issues about intervention merited further research.²

In a more fundamental sense, the most important policy issues for the United States about exchange rates cannot be restricted to questions about intervention alone. Dollar exchange rates play a central role in all the interactions linking the U.S. economy to the rest of the global economy. The (average) exchange rate of the dollar against foreign currencies is consequently a variable of first-order importance for virtually every aspect of the macroeconomic behavior of the U.S. economy, and hence for virtually every aspect of U.S. macroeconomic policies, domestic as well as external. To make sound policy decisions about intervening or not intervening in exchange markets, therefore, U.S. policymakers must be able to integrate intervention decisions with decisions about domestic monetary and fiscal policies, acknowledging the complex links between exchange-rate movements and domestic policy actions.

Our Phase II agenda identifies selected projects about exchange-rate variability that focus on the gaps in knowledge described above and on the policy issues whose successful resolution requires progress in closing those gaps.

C. Reserve-Asset Characteristics of the International Monetary Systems.

Annex C of the Brookings Phase I Report reviews changes in countries' reserve-holding behavior in the 1960's and 1970's and discusses the roles of reserve assets in the international monetary system under the current circumstances prevailing in the world economy. It then discusses analytical issues of interest to policymakers and identifies a number of policy options confronting the U.S. Government.

For the purposes of future research in this area, it is helpful to organize the analytical and policy issues under three headings: alternative evolutions of the reserve-asset features of the international monetary system, the role of "outside" reserve assets in the system, and countries' demands for reserves and the global adequacy of reserves.

The issues under the last of these headings are primarily analytical in nature, but they are important here because of their implications for policy choices facing the IMF, which in turn become policy issues for the U.S. Government. To make judgments about the global adequacy (excess or shortage) of reserves under current exchange-rate arrangements and the current and the prospective circumstances of the world economy, it is necessary as a logical precondition to be able correctly to analyze the "demand for reserves" by individual nations and groupings of nations. Because of

the variety of world macroeconomic outcomes that can be imagined for the 1980's, because of the need to consider nations' demands for reserve assets jointly with their external-borrowing policies, and because of the analytical gaps in knowledge about exchange-rate variability and exchange-market intervention, this analysis is extremely difficult. Most policymakers with whom we consulted emphasized their inability to make good judgments about the global adequacy of reserves; indeed, many even noted that they were puzzled about how to conceptualize the issue in the current conditions of the world economy.

Differing views among U.S. policymakers about alternative evolutions of the reserve system seem about as great as the differences in view about alternative visions of the evolution of IMF (the two of course being closely related). A comprehensive research agenda for Phase II of the NSF program would therefore need to include a thoughtful assessment of the advantages and disadvantages to the United States of alternative long-run scenarios, contrasting multicurrency reserve systems (those emphasizing "inside" reserve assets) with systems that give prominence to outside reserve assets (Special Drawing Rights (SDR's) or a successor asset, and gold). Such an assessment would need to be coupled with an evaluation of economic conditions and policy options likely to face the U.S. Government in the next few years and the bearing of choices about those shorter-run options on the long-run evolutions. Analysis of this type is necessarily conjectural and cannot be definitive, but can nevertheless be very helpful.

Many of the specific policy issues likely to face the U.S. Government in the next few years in this area are questions about SDR's. For example, should the SDR allocation mechanism be preserved, and if so, does it need alteration? Should steps be taken to encourage the denomination of private assets and liabilities in SDR's, and even at some point to encourage private holdings of SDR's and official intervention in SDR's? These and other issues about the SDR also raise a more fundamental question: to what extent, if at all, is it beneficial (from the perspective of the United States) for the world economy to have a "synthetic" outside reserve asset, deliberately created and managed by international agreement? This question is of course one of the main aspects that must be treated in assessments of alternative evolutions of the entire reserve system.

D. Macroeconomic Interactions.

Because of the increasing openness of the U.S. economy and its implications for economic policy, it is becoming progressively more important for U.S. policymakers to understand--quantitatively as well as qualitatively --the macroeconomic interactions between the U.S. economy and other national economies.

The need to understand the macroeconomic interactions derives from practical policy decisions that must be made. For example, U.S. policymakers must somehow adjust U.S. fiscal and monetary policies in the light of their (uncertain) knowledge that some of the effects of U.S. policy actions leak abroad and some of the effects of policy actions and nonpolicy disturbances originating abroad spill over into the U.S. economy. Practical

policy issues also arise in connection with intergovernmental consultations about the consequences of macroeconomic interactions.

Annex D to the Brookings Phase I Report contains a selective review of what economists currently know about the cross-border transmission of policy actions and nonpolicy disturbances. From that review and from our Phase I consultations, we are led to several discouraging conclusions.

Even in theory, very basic gaps in knowledge exist. The cross-national effects of monetary policy are an especially striking example. Theoretical models differ among themselves even about the direction of effect on foreign prices and outputs when the United States conducts a monetary-policy action (and vice versa for the cases where a foreign government takes the monetary-policy action and the consequences being studied are those in the United States).

At the level of quantitative knowledge, which is the level that is required for sound policy decisions, the degree of ignorance is appallingly high. Not many empirical models exist that are capable, in even a rudimentary way, of analyzing two-way interactions between the U.S. economy and the rest of the world. Of those models that do exist, most restrict themselves to the analysis of interactions through trade flows. A mere handful of empirical models are equipped to deal with the implications of financial interdependence and the subtle interrelationships between trade flows and financial flows. Even the best of this handful--the multi-country model developed by the staff of the Division of International Finance at the Federal Reserve Board--has some acknowledged deficiencies and many properties that are not yet well understood.

Perhaps most discouraging of all, the data base available for conducting a systematic analysis of global macroeconomic developments is inadequate. Some data, especially for international capital flows and for national balance sheets (financial assets and liabilities, including assets and liabilities vis-a-vis foreigners), simply do not exist. Those data that are collected, furthermore, are not readily available to analysts in the forms needed for macroeconomic analysis.

Improvements in analytical understanding of the cross-border transmission of policy actions and nonpolicy disturbances, while of lower priority for their own sakes, are a precondition for making better normative decisions about almost all aspects of U.S. macroeconomic policy.

E. Oil Exporting Nations in World Financial Flows and Payments Imbalances.

Many changes in the world economy were wrought by the oil shocks of 1973-74 and 1979-80. Although economists and policymakers alike were unprepared at the time of the first shock for the changes which were to come, the state of the analytical art has improved considerably since then. The modeling of the consequences of the oil shocks, especially the responses of macroeconomic policies to the shocks and the resulting adjustments of the domestic economy and the balance of payments, is fairly advanced. Analytical models have incorporated the basic features of domestic and world interactions involved in the adjustment.

Following the oil shocks, three "recycling" questions attracted the most attention. The first concerned the capacity of the international economic system to adjust smoothly to the shocks. Contrary to some early fears, markets and institutions proved quite resilient, and payments imbalances were reduced more quickly than anticipated. Understanding of the factors determining payments imbalances is now much improved, especially the crucial distinction between permanent and temporary changes in income or terms of trade. Thus a permanent rise in income may lead to current-account deficits, for it allows nations to consume more forever and improves their borrowing prospects; but a temporary rise should lead to a temporary current-account surplus, since most of the temporary increase is saved for future consumption.

The second issue attracting great attention was the role of commercial banks in the recycling process. By 1981, fears had largely abated that the banks could not adequately handle the channeling of funds or that some borrowers would get into debt-servicing difficulties and trigger a banking crisis and "systemic" failure. Recent events, however, have brought such issues to the fore once again. Most major borrowers are middle-income developing countries with fairly good medium-term economic prospects. In addition, they have shown relatively steady investment ratios, so it appears that they have not used their borrowings to fund consumption at the expense of investment.

The third issue concerned debt rescheduling for individual borrowing nations. This will be a recurrent problem in the 1980's. Statistical analysis has identified the main factors influencing reschedulings, such as debt-service ratios and export growth. These factors do not appear to be strongly correlated across countries (or across major borrowers), which lessens the risk of system-wide failures.

The investments of the surplus OPEC nations have also been of some concern. Information on their placement is sufficient to discern the broad pattern and to identify major movements. In the first stages following a price shock, OPEC investments are placed largely in short-term instruments, but thereafter the term gradually lengthens. The largest share is in dollars (70-75%), but the roles of the Deutsche mark and yen have increased over time. Most placements have been in broad markets, which reduces the effects on relative exchange rates and interest rates that could otherwise occur. Movements of OPEC funds sufficient to disrupt markets are theoretically possible. Such movements, however, would also injure the OPEC nations themselves; furthermore, OPEC countries have not shown a desire to disrupt markets.

Some useful research remains to be done on these "recycling" issues. One clear need is for further analysis of the factors influencing the investments of the surplus nations. Research should focus on the maturity, currency denomination, and geographical locations of the investments and on the preference for claims on public or private entities; it would necessarily refer to the oil strategies and development plans of the individual OPEC countries. The end product would be a better understanding of how OPEC decisions affect world financial markets and American policy choices.

A second project would focus on the role of private financial intermediaries in allocating world savings across national borders to the developing nations of the "South." Concerns are currently being expressed that financial capital flows to the South may be inadequate, since OPEC surpluses are rapidly disappearing, developing country deficits remain high, and commercial banks may be reluctant to expand their sovereign lending by further large amounts. Research in this area would analyze the past experience of the oil-importing developing nations in borrowing savings generated in the industrial and OPEC countries and would analyze prospective problems of this savings transfer in the changed world macroeconomic conditions of 1982-85.

A third project would focus on the effects on financial markets (and in particular on dollar exchange rates) of an OPEC decision to price oil in a basket of currencies rather than in dollars. Current market conditions make such a decision unlikely in the medium-term future. Research on this topic would need to be done, however, if changed circumstances should make such a decision seem likely.

F. Supervision and Regulation of International Activities of Private Financial Institutions.

Annex F to the Brookings Phase I Report discusses some basic issues about the roles of financial intermediaries in facilitating economic activity and draws attention to the relatively neglected international aspects of financial intermediation. It provides some evidence about the international activities of American banks that underscores the points made earlier in this report about the growing extent of financial interdependence. It then turns to the international aspects of the supervision and regulation of financial intermediaries.

The supervisory and regulatory environment within which banks and other private financial institutions operate in the United States differs in important ways from the regulatory environments in other major nations and in offshore banking centers. The existence of these disparities leads to competitive inequities between the banking systems in the United States and other countries. These in turn give significant incentives to banks to locate their borrowing and lending activities in those countries with the least stringent regulations and supervision.

All nations are affected in some degree by the erosion of the disparities in national regulatory environments. The United States, however, is beginning to encounter more severe problems than most other nations because of its generally more stringent and more pervasive regulations (for example, its use of reserve requirements and interest-rate ceilings on deposits). To an increasing extent that is not yet widely appreciated; some banking business in the United States that is primarily "domestic" in nature is being conducted through "international" transactions, thereby enabling banks and their customers to avoid "domestic" regulatory restrictions. Indeed, the traditional distinction between domestic and international banking is becoming more and more elusive. Scarcely a single regulatory issue that formerly was viewed solely as a domestic matter can now be intelligently discussed without reference to international banking and the regulatory environments in foreign countries.

The erosion of the U.S. regulatory environment associated with increasing economic interdependence is a prominent example of the general phenomenon of innovations in response to regulations. If the United States were an entirely closed economy, financial intermediaries trying to avoid regulations would have to devise a new financial instrument or find some other innovation that would escape the existing regulatory constraint. Because the U.S. economy is financially open, another and potentially more powerful alternative exists: a financial intermediary experiencing stringent regulation can decide to move the regulated activities outside the jurisdiction of the U.S. regulatory authorities. Unless the U.S. authorities can induce their counterparts in other countries to adopt a posture as stringent as that in the United States, the financial intermediary may well succeed in its efforts to escape U.S. regulations. (Alternatively, the U.S. regulators may see that they cannot prevent the relocation of the intermediary's activities, and may therefore decide to relax the U.S. regulations sufficiently to keep the activities at home.)

The detailed regulatory issues at stake here are subtle. They seldom cause policy "crises." At present they are not attracting attention outside the financial community itself. Even a majority of the policymakers we consulted during Phase I did not place these issues high on their list of priorities. It is nonetheless our judgment that this class of problems is gradually growing in importance and could at some point appear as a priority issue on the desks of U.S. policymakers.

At each of our consultations with policymakers, we raised the issue of the international aspects of lender-of-last-resort facilities. It was an almost unanimous judgment of these individuals that (i) lender-of-last-resort problems justify only a medium or low priority on our research agenda, and (ii) such problems are especially difficult for outside researchers to study. We believe that some interesting and potentially important issues exist in this area (e.g., questions of the "time consistency" of policies, moral hazard problems, and the design of self-enforcing multilateral agreements). Yet at the time of preparation of our Phase I Report, we were inclined to concur with the judgment of the policy community that lender-of-last-resort issues should not be given a prominent place on our initial research agenda.³

Issues about the regulation of Eurocurrency banking for the purposes of improving "monetary control" by central banks seem likewise of sufficiently low priority to justify their omission from the first several years' research under a Phase II program.

As noted above, private financial intermediaries have played an especially important role since the oil-price shocks of 1973-74 in channeling world savings across national borders (in particular, from the OPEC nations and the North to developing nations in the South). These international, "systemic" aspects of financial intermediation are, in our judgment, quite important for the analysis of world macroeconomic developments. Several projects in our Phase II agenda could focus on these systemic aspects.

G. The International Monetary System and the New International Economic Order.

A discussion of financial issues in the North-South dialogue is contained in Annex G of our Phase I Report. Following the treatment found in most of the literature, we chose to focus on the New International Economic Order (NIEO).

The international monetary system has been one of the central foci of the NIEO. The NIEO criteria for reforming the system include equity, sovereign equality, interdependence, common interest and cooperation among all states. These criteria may not provide a basis of reform when economic efficiency is a primary motivating force. The NIEO, however, draws its importance elsewhere, namely, the political commitment to it by Third World countries. If the existing international monetary system is stacked against developing nations, if political antagonisms between developed and developing nations are preventing efficient solutions to economic problems, or if the world economy is headed into uncharted territory, then a political approach to reforming the system may conceivably have some merit.

Advocates of the NIEO identify six monetary issues that they believe require attention. The first concerns the provision of resource transfers to developing countries. Suggestions are made to increase such transfers, to make them more automatic, and to allocate more of them to the poorest countries. While concessional assistance still commands support, these suggestions fail to reflect the political realities in donor countries and thus do not appear realistic.

The second issue is the current status of exchange-rate arrangements with their permissiveness for floating. Proponents of the NIEO criticize the current arrangements for allowing excessive fluctuations and "overshooting" among key currencies and for placing excessive burdens on deficit countries. Some variants of these criticisms may be justified. Neither the analyses of these problems nor their possible solutions, however, are aided by considering them within the framework of the NIEO.

The third issue concerns the arrangements for creating and distributing international liquidity. Advocates of the NIEO criticize present arrangements for being unmanaged by governments and for failing to distribute liquidity to countries most in need of it. Suggestions are made to increase the authority of the IMF, to make the SDR the principal reserve asset, to change the allocation of SDR's to favor the developing nations, to link the SDR with development, and to change the lending activity of the IMF. All of these suggestions have either already been rejected by the industrial countries or have already been accommodated to some degree.

Private international finance is the fourth issue. Existing institutions are criticized for not making finance available to many so-called uncredit-worthy developing nations and for not providing loans with a sufficiently long maturity. Advocates of the NIEO suggest that lending through private intermediaries be supplemented or supplanted by government institutions--including a new one, the World Development Fund. This latter proposal has been ignored by the industrial countries on the grounds that the new Fund would merely duplicate existing institutions.

The fifth issue is the problem of the debt of the developing nations and the servicing difficulties they now face. Suggestions have been made for debt forgiveness and for regularizing debt negotiations. While some forgiveness of official debt has occurred, forgiveness of debt to private lenders makes no sense for either lender or borrower.

The final issue identified by proponents of the NIEO is the control of international financial organizations. The argument is made that developing nations have inadequate influence in these institutions. Suggestions for correcting the alleged imbalance include allocating a larger share of the voting power in the IMF and the World Bank to the developing nations. These suggestions fail to reflect the political costs to the developed countries of such a change and are both unrealistic and undesirable.

We thus conclude that the NIEO controversy and debate has not provided a realistic avenue for the reform of the international monetary system or a fruitful context for the analysis of financial issues. This judgment was shared by all of the U.S. policymakers we consulted during Phase I. Accordingly, we have not included any research projects in this area on the Phase II agenda.

H. East-West Financial Relations.

In the 1980's East-West economic relations will pose important and complicated choices for policymakers in Western governments, particularly in the United States. The legacy of the 1970's is significant economic interdependence between the Eastern and Western blocs. The most visible component of that interdependence is \$80 billion in hard-currency debt accumulated by the Soviet Union and Eastern Europe. The successful servicing of that debt has created in Eastern and Western governments and banks a mutual interest in the future of East-West trade and finance.

Soviet and East European difficulties in economic performance complicate this situation in several ways. First, part of their economic difficulties is a reflection of deep-seated problems in their economic systems which will take time (and probably new capital) to rectify. Second, Soviet economic difficulties influence East European economic performance as the Soviet Union takes steps to reduce subsidized deliveries of energy and raw materials to Eastern Europe in an effort to alleviate some of its own problems. As a result, any policy directed especially at the Soviet Union (for example, a trade embargo) also affects Eastern Europe.

The policies of Western governments about East-West economic relations will influence the severity of Soviet and East European economic difficulties and debt-servicing problems. If policies are pursued that remove barriers to Western imports of Eastern goods, allow debt reschedulings of a reasonable length and cost, and permit some flows of additional capital to Eastern countries, then most East European countries (with the possible exception of Poland) will quite possibly be able to service their debts without imposing large, and politically risky, declines in living standards on their populations. The specific policies and institutions comprising such a Western approach still need to be formulated. That in turn will require learning

more about the nature of the difficulties in Soviet and East European economic performance, their special problems in developing hard-currency exports, and the influence Western policy can have over those problems.

Policymakers in the United States will have to decide precisely where U.S. interests lie in this situation and how U.S. policies can influence East-West economic relations in light of those interests. Such decisions are complicated by the likelihood that (to judge from the outcome of recent efforts to cancel the Soviet-West European gas agreements) the United States will find it difficult to pursue policies on East-West trade and finance at considerable variance with West European and Japanese policies. A further complication is also present; in areas where U.S. policy can affect East-West economic relations (for example, concerning Polish default), there are important secondary effects on the West European and Japanese economies that must be considered.

There are three areas where further research on East-West financial affairs would be useful in assisting U.S. policymakers to reach decisions on these issues. First, research is needed on the causes of Soviet and East European economic difficulties in economic performance, and the implications of those difficulties for the capability of those countries to manage their debts. A second and related study is needed to consider the proper form for conditionality in debt rescheduling for East European countries; such conditionality criteria should take into account the causes of their economic problems, and the special nature of the policy instruments used to control resource allocation in centrally planned economies. A third area on which research needs to be done is the institutional forums appropriate for negotiations about debt servicing and for the monitoring of new debt flows. It needs to be asked, for example, whether the United States should encourage a further expansion of the role of the IMF and the World Bank in dealing with these issues, and, if so, what special considerations should bear on East European (and possibly Soviet) membership in those organizations.

V. Some Basic Features of the Brookings Phase II Program

We conclude this overview by presenting a brief sketch of several features of the Brookings proposal for research under Phase II of the NSF grant. These include a "rolling" research agenda; several channels of consultations with the policy community, including the establishment of a Policy Advisory Panel; use of an Academic Advisory Group and outside participants; and emphasis on outputs conveying the results of the research to policymakers in a timely manner and accessible format.

A. "Rolling" Research Agenda.

Policy needs and priorities necessarily adapt over time in response to altered circumstances. If research on international economic policy issues is to be genuinely helpful to policymakers, it too must be capable of flexible adaptation. The key concept in Brookings' approach under a Phase II grant, therefore, will be a "rolling" agenda subject to periodic reevaluation.

At any given time, a current agenda will exist that stretches over a four-year horizon. Firm commitments to implement projects on the current agenda, however, will extend into the future for only 12 to 18 months.

This approach to research design is, in essence, identical to that involved in a sound discretionary approach to policymaking itself. Decisions are shaped by looking out over an extended horizon. Yet flexibility is retained to revise longer-run plans as new information is received that alters judgments about future needs and priorities.⁴

B. Ongoing Consultations with the Policy Community.

Our consultations and investigations during Phase I convinced us that our research cannot be fully responsive to the priorities of U.S. policy without continued feedback from the ultimate consumers themselves. We accordingly gave considerable thought to mechanisms that would facilitate this feedback without imposing major additional demands on policymakers who are already heavily burdened. Four methods of generating this feedback will be used.

The first is the establishment of a Policy Advisory Panel. The panel will meet twice a year, with interim meetings if unusual circumstances warrant. These meetings will provide an opportunity for the policymakers to use their current perceptions of needs and priorities to help us revise our future agenda. Members of this panel will be drawn from current and former occupants of key policy positions in the U.S. Government.

The second mechanism will be a series of periodic luncheon meetings with individual members of the policy community. These will be arranged on an ad hoc basis as the Brookings staff feel they may be desirable (always taking into account the constraints on policymakers' time). Any such meetings initiated by a policymaker will also, of course, be welcomed. Presumptively, one or two such consultations will be arranged per month. The format will be similar to those held throughout Phase I, arranged at a time and in a manner most convenient to policymakers.

Third, Brookings will continue to invite members of the policy community to a scheduled series of dinner "seminars" to discuss the results of completed research projects. On occasion, dinners will also be held to present provisional results from ongoing projects. Such seminars help to disseminate research conclusions to policymakers and their staffs and provide an opportunity for the researchers themselves to acquire feedback and new insights.

Finally, the Brookings researchers will continue to interact with policymakers through informal personal contacts with individuals in the policy community in Washington, New York, and foreign capitals. These contacts will be an important mechanism for facilitating the consultative goals of the program.

Our procedures for consulting with policymakers and revising our research agenda are intended to strike a balance between two extremes. The research agenda should not be rigid and unresponsive, preventing us from shifting

gears when strong evidence exists that the current and prospective priorities of policymakers have changed. Yet extreme flexibility is also undesirable. The work program would be unstable and superficial if it "grasshoppered" from one issue to the next in response to each month's "new," and possibly transitory, revision of policymakers' priorities. We plan to listen carefully to policymakers, to be influenced very strongly by their perceptions, yet in the end to make decisions by blending their views with our own judgments about the long-run problems of fundamental importance.

C. Consultative Arrangements with the Academic Community.

Our program design incorporates two formal methods of keeping in touch with scholars in the academic community and other research institutions. These arrangements will supplement the intensive informal contacts with academic scholars that are already prevalent in Brookings research.

First, we will designate a small number of leading academic economists from other institutions as an Academic Advisory Group. These outside advisers, unlike the Policy Advisory Panel, might seldom meet as a group. Members of this group, however, will come individually to Brookings for short, intensive visits. These scholars will be selected on the basis of their own contributions in the project areas in which we will be working and their ability to provide us with additional insights into ongoing basic research in the academic community. Skillful use of these advisers will help us keep abreast of recent theoretical developments and learn about ongoing research in the universities relevant to our own work. The academic advisers can also help us in our periodic reevaluations of the research agenda.

The second method of creating additional contacts with the academic community will be through the commissioning of particular projects to expert scholars. Our initial agenda is too ambitious to be carried out entirely by existing Brookings personnel. Combining the perspectives and experiences of scholars from various institutions, moreover, should enhance the value of the research. In many cases, individual scholars at other institutions have a strong comparative advantage in doing specific projects. On a highly selective basis, therefore, we plan to invite other scholars to work with us in implementing our research agenda. If a project is commissioned, the Brookings team will work closely with that individual to ensure that the output is suitably integrated into the program as a whole.

D. Scope of the Research Agenda.

The design of an agenda responsive to the needs of policymakers encounters a difficult trade-off. At one extreme, a narrow agenda concentrating in a very few functional areas runs the risk of being unresponsive to many policy needs. At the other extreme, research done under a very broad agenda (covering all the major functional areas of international financial policy) runs the opposite risk of being superficial.

Our choices about the scope of the agenda will again try to strike a balance between the extremes. Through the device of the rolling agenda, we will avoid an inflexible choice about the trade-off. In principle, we are willing to take on projects in any of the functional areas identified and

discussed above. At any given time, however, our projects will be concentrated in those functional areas deemed to have the highest current priority.

E. Types of Outputs.

The majority of Brookings' research projects result in books or long monographs. A few books could result from the research to be conducted under a Phase II grant. For the research carried out under this proposal, however, we anticipate that book-length publications would be the exception rather than the rule. Rather, individual monographs and papers, some perhaps quite short, seem a more suitable form for conveying the results of the research to the policy community in a timely manner and accessible format. In recent years, Brookings has increasingly emphasized the publication of short "staff papers" and monographs. The short manuscripts resulting from the increased research on international economic policy under a Phase II grant will therefore fit naturally into the current Brookings publication program.

It is also anticipated that an occasional conference will be convened on topics associated with the research on international financial policies. A volume derived from such conferences will be published if the papers are of high quality and of interest to a wide audience.

From time to time, project staff at Brookings are likely to initiate short policy notes on currently important issues. These volunteered notes will be sent to policymakers as appropriate. Project staff will also willingly respond to occasional requests for advice initiated by the policymakers themselves.

Some of the analysis carried out in Phase II projects will use complex theoretical and econometric techniques. The output itself, however, will be written in a form intelligible to the interested, informed nonspecialist as well as government officials and academic scholars who are experts in international finance.

NOTES

1. More detailed accounts are provided in our Phase I Report and Phase II proposal (April 1982). The members of the Brookings research team during Phase I of the program included Ralph Bryant, Edward Hewett, Lawrence Krause, Robert Lawrence, Richard Mattione, and Robert Solomon. Christine Ross provided research assistance. This paper was prepared by Ralph Bryant.
2. At the Versailles Summit Conference in June 1982, an agreement was reached to establish a study group of key officials to review the exchange-market intervention policies of the participating countries. This study group is now at work and is scheduled to make a report in early 1982.
3. More recently, Brookings has been cooperating with Professors Jack Guttentag and Richard Herring of the University of Pennsylvania to incorporate some of the Guttentag-Herring research on international banking into the Brookings program. This cooperation involves a substantial upgrading of the priority accorded to lender-of-last-resort and other "prudential" issues.
4. In the jargon of the control theory literature, the approach is termed "open-loop planning with continuous feedback."

PROCEEDINGS OF THE SESSION ON U.S. OPTIONS
FOR MODIFYING THE INTERNATIONAL MONETARY SYSTEM

INTRODUCTORY REMARKS OF ALAN I. RAPOPORT, MODERATOR

I would like to welcome everyone here on the first day of NSF's colloquium on International Economic Policy Research. I'm Alan Rapoport from the National Science Foundation's Division of Policy Research and Analysis, the division that is sponsoring this research program.

As Richard Green noted in his introductory remarks, the purpose of this colloquium is to present the findings from the first phase of NSF's research program in international economic policy. Today's session reports on the topic, "U.S. Options for Modifying the International Monetary System."

I would now like to lay out the ground rules for this session. First, the project director(s) of each of the four research efforts will present the highlights from their papers in 15 to 20 minutes. After all the speakers have finished their presentations, we will have a short break. The break will be followed by an open discussion and questions from the floor. We believe the interchange of ideas generated by an open discussion is the most important part of this colloquium. Thus, we are planning to record the discussion and publish the papers and proceedings of the colloquium some time next year.

It is my pleasure to introduce our speakers. First, we have Richard Eckaus and Donald Lessard of the Massachusetts Institute of Technology. They will be followed by Jack Guttentag and Richard Herring of the University of Pennsylvania. Peter Kenen of Princeton University will then give his presentation and Ralph Bryant of the Brookings Institution will finish this part of the session.

PANELISTS' REMARKS

RICHARD ECKAUS:

I feel strongly the need for brevity and will try to observe that requirement. First, however, I want to congratulate Ralph Bryant of the Brookings Institution for winning the competition that the NSF program created. Then I want to congratulate Jack Guttentag and Richard Herring and their associates for being asked by the National Science Foundation to be co-opted into the Brookings research program, and, finally, to congratulate Peter Kenen for also being co-opted into the Brookings research program. MIT, which I represent, is the only institution among the competitors whose members will not participate in the final research program. That gives me the occasion to express my appreciation to the NSF for this opportunity to present the approaches to research which we developed at MIT.

Don Lessard and I are rapporteurs for seven senior colleagues in addition to ourselves and two junior colleagues. This research group includes economists who are often considered to be leaders in their field. Since there are a number of them, each of them specialists, you will have to forgive me and, to some extent, Don if we cannot do full justice to our colleagues' work. We have some expertise in our own fields, but not in all the fields that we proposed and did cover.

What I will do is describe briefly our methodological approach and give an overall description of the research which we did. Don will then provide more detailed descriptions of our efforts.

We had as our objective applied research which would contribute to policymaking. To do this, however, we believed that we must start, and we did start, by identifying the major issues in the international monetary and financial system. The second step was to do basic research to understand these issues. The last step, we thought, was the identification and analysis of policy options. So rather than starting with potential policy ideas, we proposed to end with policy. There are, of course, an infinite number of potential policies which can be developed in these very complex fields as well as in other fields. It is necessary to have some way of discriminating among policies to find those which are infeasible and implausible and those which might, in fact, be potentially useful.

That kind of discrimination must, we think, be based on basic research. We make no apologies for having submitted a proposal to do and having undertaken fundamental research. It was our understanding that was desired. It was also our belief that basic research is necessary and, in fact, is the only reliable means of producing useful policy results.

However, I must emphasize that our program is policy oriented. My colleagues, although prominent among researchers, are all practical people. Any list of their consultancies and experience would indicate that. We all shared a belief that the problems are difficult and, because they are difficult, deserve to have brought to them the most powerful analytic and empirical research methods which are relevant. This is not an area in which one can slight on technique.

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I will not apologize either for the fact that the research represents the interests of my colleagues. Everyone agrees by now that one can seldom get first-class researchers to do things that do not interest them. Fortunately, at MIT, we have a lot of senior faculty members who are interested in international financial and monetary issues. We were thus able to pull together a substantial group.

Turning to an overview of the research that we undertook, there were three categories of relevant U.S. policy and research which were apparent from the very beginning and which, in fact, emerged from our individual work. The first is determination of foreign exchange rates in the workings of the international monetary system. Second is the character and consequences of changes in the international financial system and of financial integration. Third, there are a number of special features of developing countries which make both their role in the international financial monetary system and the consequences of the workings of the system for this group of countries unique. This subdivision of issues does not require any great insight.

What does distinguish our research at MIT is the identification of critical problems within each of these broad categories. That is, we moved immediately to define, isolate, and do research on a specific set of issues. Because we had a large group participating, however, we had very broad scope.

One recurrent theme did emerge in all the work we did in each of the research areas and that is the central role of asset markets in the functioning of the international system. We found ourselves talking over and over again about the theory of asset markets in international finance and international monetary problems.

In exchange rate determination, the foreign exchange rate is more clearly seen now as a rate which mediates asset as well as output exchanges. Research on the international monetary and financial system clearly requires identification and analysis of the character of asset markets. In developing country studies, there has been a lot of attention to the particular kinds of macroeconomics which are appropriate to those countries, and we felt very strongly that that kind of analysis had to be extended to asset markets.

So, although we did identify specific research problems in all of these areas, we found that there was a common thread which united all of our discussions and along which we could communicate very readily and to mutual profit.

I think Don now shall talk about the particular research topics.

DONALD LESSARD:

Given our emphasis on asset markets, we defined the international financial system broadly to include financial markets and institutions as well as the monetary system. In our opinion, too much research has been focused on the monetary system, which is only a small part of the financial asset market and, increasingly, a part that is constrained by the other aspects of financial asset markets.

Within this broadened domain, we sought to identify areas where additional understanding was necessary for reasoned policy formulation and where additional understanding was likely, given current theory. This provided a focus to our identification of issues and options, many of which appear to be short term or transitory but many of which involve the same set of analytical problems, the same set of forces in the system, and the same set of effects. Thus, we concentrated on understanding the chain of events, actions, and effects rather than on specific, highly situational policy options. We felt that this was our comparative advantage in helping policy analysts.

We proposed studies in the three broad areas that Dick Eckaus mentioned--exchange rates and the international monetary system, the international integration of financial markets, and developing country interactions with the international monetary system. In the latter case, we considered both the impacts on developing countries of the current structure of the international financial markets and the feedbacks to the U.S. financial system and U.S. policies from the problems that developing countries will face.

I will now illustrate how our approach dealt with policy issues and options in each of these areas. I will begin with exchange rates and the monetary system, which was to be explored by Rudi Dornbush and Stan Fischer.

The basic issue here is the apparent extreme volatility of real exchange rates, and the perceived (at least on the part of some people) inefficiency of exchange markets. The first step in coming to grips with this issue is to identify the relevant facts. While we are extending our knowledge of exchange rate behavior quite quickly, we still have such short experience with the current monetary system that there is greater need for simply pinning down the behavior.

The next step is to identify the causes of major movements in real exchange rates. Are they due to financial market anomalies, speculative bubbles? Are they due to real rigidities? Or are they due to other elements in the macroeconomic system?

Following the identification of the causes, it is necessary to identify the effects of real exchange rate fluctuations, a subject that overlaps with the research program in the area of international trade. I believe that we are now realizing that monetary policy is having a major impact on competitiveness, that many structural changes are being caused by real exchange rate fluctuations, and that these effects feed back to the feasible set of macroeconomic policies on the part of various countries. This leads to the policy issue of what can be done to deal with this problem.

To illustrate one approach to these issues, we focused on a particular policy option which is anathema to many--the possibility of taxes on real interest rates as a way of stabilizing real exchange rates. We did not state this option as a proposal, but rather as a way to focus the issues. If fluctuations in real exchange rates are a problem and if they are generated largely in asset markets, then it is interesting to see if there are feasible asset market interventions to deal with them. I think that careful research on that topic would have suggested that this option would be relatively ineffective and would impose high costs on other parts of the system, but it also would have illustrated in much more detail the feasibility of various responses, including greater coordination of monetary policies. To the extent that different monetary policies result in these competitive effects and to the extent that there is no easy fix in financial asset markets, this would appear to be one of the few feasible alternatives.

In our analysis of the international financial system, we concentrated on identifying the nationalistic factors that limit the extent that markets are integrated across national boundaries and evaluating the effects of such limits on national and world economic welfare. In examining the effects of integration across markets, macro-economists tend to have a different perspective than financial economists. Macro-economists tend to worry about integration as a set of links for transmitting certain disturbances while more micro-financial economists tend to talk about financial markets as mechanisms to spread risks and thus reduce the negative welfare impacts of disturbances. The two perspectives lead to quite different conclusions about the value of international integration of financial markets, and we felt that an attempt at synthesis was an important step in providing a better basis for policy choices.

One major policy issue that we identified in this area was whether the United States should seek an appropriate regime for international finance. At the present time, there is no GATT for international finance. The gentlemen's rules say that capital flows can be restricted at virtually any time. Many countries actively intervene to restrict foreign access to various aspects of their capital markets. What does that mean to the overall functioning of financial markets? What does that mean to competitiveness of firms based in those different countries? How should the United States react if other countries maintain restrictions and barriers on access to financial markets?

We feel that there is a need to better understand financial trade--the composition of current financial flows, the restrictions to financial trade, the potential benefits from financial trade--before entering into discussions of whether, say, the United States should retaliate if the Japanese or Germans impose restrictions on the entry to local financial markets by U.S. corporations.

We raised a number of other issues relating to the integration of financial markets as well. We looked at the impact of OPEC's financial position on financial markets, not solely because of an interest in OPEC but rather because, from financial theory, we expect that those countries

that are going to make most use of international finance are those most out of step with others in terms of time profiles of income, risk preferences, or risk endowments. OPEC countries and certain LDC's provide the most divergent examples. They are the outliers for which international finance is the most interesting phenomena. With regard to the less developed countries, we made the point that, while they may be small in absolute terms, they are tremendously dependent on external finance and they can have a major effect on international financial markets. We suggested that research should not focus only on bank loans and sovereign debt; it should include the entire structure of the external finance of developing countries. The recent situation in Mexico, a country that has a very complex external balance sheet, in no way can be studied by just looking at sovereign credit.

JACK GUTTENTAG:

Dick Herring and I submitted a comprehensive proposal to NSF covering all the major areas of international monetary and financial systems. We did not win the competition, but we were asked by Brookings and the National Science Foundation to include the work of Dick and myself on international banking as part of the Brookings project. I would not express that by saying we were co-opted, as Dick Eckaus put it, because the NSF and Brookings do not pay enough to co-opt anybody, but they have been very gracious. We have established a nice working relationship with Ralph Bryant and his colleagues, and we are very happy to join their team.

We will restrict our comments today to international banking. I am going to summarize very quickly and, therefore, very superficially some of the major weaknesses of the international banking system. I will just touch on some policy options that we have or will consider with regard to each of these weaknesses. Then Dick Herring is going to treat one of those weaknesses, which is of particular interest today, in a little bit more depth.

The decline in capital positions of international banks is a serious source of concern, because it means that major banks have a reduced capacity to withstand major shocks at a time when the probability of such shocks occurring has gone up. We see such declines in statistics for the United States, Japan, Holland, and other countries. Capital adequacy has been a much-studied problem, but its international aspects have been largely neglected. Yet we believe it is basically an international banking problem. Capital positions have declined mainly for the large banks that are heavily involved in foreign lending.

International banks are under the greatest pressure to reduce their capital ratios in order to stay competitive in international banking markets. Sometimes international banks, by exploiting differences in the severity of regulation in different jurisdictions, can reduce their capital ratios by operating through weakly capitalized overseas affiliates. German banks have been particularly skilled at that. The policy option to be considered is the plausible one of imposing effective capital requirements on international banks, but that involves a whole host of problems, some of which are summarized in our paper.

A second serious weakness of the system is the interbank market, which is a potential source of contagion where the problems of one bank lead to problems with other banks. Long transaction chains where Bank A deposits in Bank B which, in turn, deposits in Bank C and so on, are a particular weak point in the interbank market. A problem that affects one bank can affect many banks in the same chain. The lack of reliable information on those deposit claims--which banks owe how much to which other banks--is also a problem. Another weak point is that net debtors, banks that are on balance borrowing more than they lend, are the weakest banks. They are subject to the shortest maturities, and their credit lines are probably the most fragile. These banks are subject to the greatest funding risks--the risk that when their liabilities mature, they will not be able to roll them over. Policy options in connection with the interbank market include the provision of better information on interbank exposure and better regulatory control over the liquidity positions (and the management of liquidity positions) of international banks. The adequacy of lender-of-last-resort facilities is also relevant in this connection.

A third major weakness of the international banking system is the many barriers to the effective regulation of international banks. There are problems in obtaining information on assets and liabilities of branch offices and affiliates located in countries that restrict the provision of such data. Adequate information on interbank exposure is not collected anywhere, as I indicated earlier. Information on the liquidity positions of international banks is also inadequate, and central banks and regulatory agencies are far, far behind in the technology required to understand, let alone to control, liquidity positions.

Competition in the interbank market and in foreign lending generally makes it difficult for regulatory agencies to impose prudential standards on their own banks that are tougher than those imposed on foreign banks. Banks that have operations in many legal jurisdictions can engage in "regulatory arbitrage" where they can move assets and liabilities between different jurisdictions in such a way as to minimize the overall impact of regulatory burdens. The obvious policy option is greater international cooperation, but that is easier said than done.

A fourth serious weakness of the international banking system is the inadequacy of lender-of-last-resort facilities for some banks. This includes banks in countries that don't have lenders of last resort. It also includes banks in countries where lenders of last resort may be effective when operating domestically, but ineffective if they have to operate in foreign currencies which they may not have in sufficient volume. And it may include affiliates located in foreign countries which for various reasons may not have access to the local lender of last resort or to their parent's lender of last resort. The optimal policy option, of course, is to improve these facilities, but a second-best solution may be to clarify who has a lender of last resort and who does not. In many cases that issue is now clouded in ambiguity, and that ambiguity is largely a deliberate (and in our view a misguided) policy on the part of the authorities.

A fifth major weakness in the international banking system is the affiliate mechanism. I referred earlier to the ambiguity that now exists with regard to firmness of credit lines in the interbank market and also with regard to the availability of lender-of-last-resort facilities. In both cases, ambiguity creates a potential for unpleasant surprises. There is a third type of ambiguity that pervades the market, and that is ambiguity with regard to the responsibility of parent banks for the debts of their affiliates. Creditors and parents may make different assumptions on this matter, creditors sometimes assuming that parents accept responsibility for the debts of affiliates, while the parents reserve judgment as to whether they will or will not. The policy option, of course, is to establish different liability rules--rules that either require the assumption of full legal liability or explicitly disavow liability.

A sixth serious weakness of the international banking system is the methods that individual banks use to manage international banking risks. Some of these methods contribute to a vulnerable system. In international banking, risk management is associated with flexibility, with keeping options open, with staying loose and being prepared to change directions at a moment's notice. Viewed in this light, ambiguity with regard to credit lines to other banks and ambiguity with regard to responsibility to foreign affiliates is deliberate bank policy, because in both cases it provides flexibility to the individual bank concerned. Each bank acts prudently to protect itself, but, aggregated, such behavior creates a system with a potential for unpleasant surprises.

There is another way in which international banks try to maintain flexibility, and that is in the methods they use to compel borrowers to repay. The standard techniques that are available in domestic lending do not work very well in international lending. The government of the creditor rarely is in a position to compel the borrower to repay, because the borrower is in a separate legal jurisdiction, and seldom are there assets to attach. The main threat that a bank has to compel repayment is the threat of withholding future credit, but this threat is not effective unless the borrower is forced to renegotiate his loans fairly frequently. This gives rise to what is sometimes called the "short leash" approach to international bank lending. Another reason for the short leash approach--and why the banks feel it gives them great flexibility--is that each bank thinks that it may be a little bit smarter than the next bank and, if trouble appears on the horizon, it will perceive it before other banks and will be able to get out.

However, the short leash approach to international lending tends to weaken the system. For one thing, it is subject to the fallacy of composition. All banks cannot get out, they cannot all shift their exposure onto other banks. Furthermore, using the short leash approach, debt repayment schedules are related less to the capacity of borrowers to repay than they are to the need to force them to be willing to repay. Finally, under the short leash approach, balance of payments crises are much more likely to lead to debt crises because lenders will be tempted to run. There are no very specific policy options that arise in connection with this problem, but one that we think would do a lot of good, at least in principle, is a systematic policy of having foreign loans periodically marked to market.

Another major source of concern is that the institutional machinery for resolving debt problems is not very effective. It is very difficult to get banks and country borrowers to take remedial measures in order to avert a crisis. They are immobilized for various reasons, and only when the crisis occurs do sufficient pressures build up for these two parties to do something about it.

The final serious weakness of the system, and the one that I am leaving to Dick Herring to discuss, is a tendency of individual banks to become over-exposed to individual customers. Dick has insisted that we use the expression "heavily exposed," but either way, it is a problem, and Dick will discuss it now.

RICHARD HERRING:

I want to amplify this particular issue of heavy exposure because it has some current interest and involves a policy option that we are currently investigating. The tendency to develop very high concentrations of country risk exposures is, in fact, a centuries-old pattern. You can trace it back to the Middle Ages when the largest banks of the 14th century, the Bardi, the Perruzzi, and the Acciajoli in Florence, went under on a loan to Edward III that was "equal to the value of a realm." A century later, the Medici banks failed, partly as a result of the default on a loan to Edward IV, his successor. The Fuggers were ruined by the default of the Spanish Hapsburgs. Thus far, although we've had no contemporary casualties due to excessive exposure to country risks, it's clear that once again, we've developed some very high concentrations of country exposure relative to the capital of particular banks.

This is a reflection of some very powerful forces that lead to increasing concentrations of country risk exposure. First is the simple fact of market opportunities. Although bankers generally prefer to lend money to countries who don't really need it, the reality is that the deficit countries have a much stronger need for external financing than surplus countries. Moreover, it has always been true that lending to sovereign governments can lead to profitable collateral business in deposits, foreign exchange, and other services. In addition, there are some very real advantages to specialization. To develop a strong customer relationship takes a very large investment in both specialized human and physical capital. For that reason, a bank can make additional loans to the same borrower for much lower marginal costs than it can establish new relationships with other countries. When you add to these factors the tendency for aggressive country borrowers to flex some monopoly power and to approach banks with a "what have you done for me lately" attitude, then you can see there are some very strong pressures on banks to increase their exposure.

Banks face the unpleasant choice between the hypothetical, uncertain costs of excessive exposure and almost certain loss of revenues if additional loans are not forthcoming. In addition, when there's no clear consensus on how much exposure is too much--it may be prudent to lend more than 100 percent of capital to a country like Switzerland--it's not surprising

to note that bankers wring their hands about increased exposure and continue to lend. This too is a centuries old practice; the Medici actually had prohibitions against lending to sovereigns that they found profitable to override.

But, what are the problems in building up exposures of country risks? First is the very obvious eggs-in-one-basket kind of risk, vulnerability to a particular set of economic hazards. Perhaps even more important, however, is exposure to moral hazard. It's nicely characterized by the old adage that if you borrow a million from your bank and can't repay, you're in trouble; but, if you borrow billions and can't repay, the bank is in trouble. We might add that the financial system might well be in trouble, and, if the borrower happens to be a sovereign, there may be a substantial foreign policy problem as well. The bank's vulnerability to a particular borrower may, in fact, put excessive power into the hands of that borrower so that even the threat of a default may enable the borrower to extract additional resources from the bank or from the bank's government.

What I would like to do is quickly sketch for you the regulatory response in the United States to this problem of mounting concentrations of country exposure, and then suggest the policy option that we think deserves further attention. There are laws limiting exposure of banks to particular borrowers, but these do not apply to country risks. Instead of applying the ten-percent-of-capital rule, the Comptroller of the Currency has devised a means and purposes test, similar to that which is applied for subsidiaries of domestic corporations, but the means and purposes test does not address the problem of country risk.

There is a key difference between domestic and foreign lending. Foreign borrowers who meet the means and purposes test may nonetheless be linked in a way that independent domestic borrowers are not. The foreign government is implicitly a party to each contract. Loans to foreign borrowers on any currency other than the local currency are subject to the risk that perhaps the borrower cannot convert local currency into the currency in which the loan is denominated. Perhaps the local government won't permit it or can't permit it.

Why not then make country exposures subject to quantitative limitations, much like the ten-percent-of-capital rule applied to individual domestic entities? Well, first of all, one must recognize that there is a very profound ambivalence about whether we want to restrain bank lending to foreigners. On the one hand, policymakers are very uneasy about mounting exposures, but, on the other, they're equally uneasy about an abrupt cessation of bank lending to a foreign government. Policymakers also wish to avoid the diplomatic problems of restricting access of some countries to U.S. banks. In addition, there's concern over the logical basis for applying a ten percent or any other percent limit. Is it really sensible to treat governments like corporations, or is it really sensible to treat small, poverty-stricken nations like large, rich nations? (These questions, incidentally, are very much the same that one could address with the traditional ten percent rule, but they are rarely, if ever, posed.) Moreover, there is also a reluctance to override the business judgments of bankers and a concern

that the imposition of limits might even be perverse, i.e., that limits might prevent banks from building up concentrations of lending to very safe borrowers and divert the lending to less secure creditors.

Instead of quantitative restrictions, the U.S. regulators have devised a new supervisory approach that emphasizes an appraisal of each bank's internal risk management system and draws to the attention of the bank's directors, concentrations of country risk exposure in each bank's portfolio. This may be all that's necessary if, in fact, these concentrations are the result of inattention or misunderstanding. (Anecdotal evidence suggests that such a possibility should not be dismissed out of hand; reputedly some banks were surprised by the results when they were required to compute their exposures and report them.) But, it also seems possible that these exposures are the result of careful, sound business judgments. In any event, the new approach has not reversed the trend toward greater concentrations of exposure. The trend has continued despite the new approach.

The failure of the new approach to constrain increasing concentrations of country risk exposure in the largest banks may suggest that there is a case for letting the market play a larger role in supervising the exposure of major banks to country risks. The basic rationale is that the provision of information to creditors allows them to make better judgments about the condition of particular banks and forces the banks, more importantly, to take such judgments of creditors into account ex ante in making their loan decisions.

There is clearly a demand for such information. A substantial amount of resources are expended in New York and London and several other financial centers in trying to second-guess what actual exposures are. Moreover, such information could be provided at very low marginal costs since it is already reported to most regulators and should, in any event, be reported to management.

But, bankers and regulators have very strong objections. They fear that high exposures would be interpreted as a sign of weakness. That's true, of course, of any high risk, high return venture and, in any event, the creditors should be the judge. They are also concerned that the market may misinterpret such information. It's often argued that you need very sophisticated analysis, but surely lots of additional information could be given. Also there is a concern that it would put banks that had to disclose at a competitive disadvantage with those that did not, but that, in fact, is an argument that could cut both ways. It seems a bit odd to expect that the market will treat banks that do not disclose more charitably than those that do. In addition, there is also a concern that disclosure of exposure may inhibit flexibility. It may make it much more difficult to employ the short-leash strategy. Disclosure may make it more difficult to run down exposure to a country when trouble is anticipated and more difficult to deal with particular borrower governments.

More generally, there is the possibility that disclosure of country risk exposure may, in fact, be embarrassing on several fronts. Disclosure may give rise to such questions as "Why have you lent so much to wicked

country X ?" or "Why don't you lend more to deserving country Y?" In a pluralistic society like the United States, some weight must be given to such concerns.

At this point, when conditions in the financial markets are very fragile, perhaps these objections to greater disclosure of country risk exposure deserve greater attention. In any event, a long transition would be in order. But the likely long-term consequences of fuller disclosure argue in favor of moving in that direction. An increase in disclosure might well increase incentives to develop secondary markets in country risks. Such markets would open new possibilities for valuing country loans that might improve the lending policies of the banks and the borrowing policies of countries.

PETER KENEN:

To prolong the fun, let me point out to Jack Guttentag that some of us can be co-opted for love and not money.

In our own proposal for Phase I, the group of us who worked on this project at Princeton called attention to three recent changes in the character of the international monetary system.

First, there has been a significant increase in the number and variety of actors. In the 1960's, the system was dominated by a small number of industrial countries with similar interests in the functioning of the system as a whole, although they might disagree about the specifics. In the 1970's, the OPEC countries and other less developed countries became much more important actors, as did commercial banks and other private institutions.

Second, additional currencies have become important to the system. At the end of 1975, the dollar accounted for about 88 percent of the currency reserves of industrial countries. By 1980, its share had fallen to about 79 percent. There has been diversification in private financial markets too, and the changes in official and private practices, taken together, have altered to some extent the role of the dollar as international currency.

Third, the choice between financing and adjustment, which used to be influenced heavily by the supply of international reserves available to deficit countries, is probably influenced more heavily today by access to credit in international financial markets. Therefore, banks have come to play a major role in determining the pace and character of the balance-of-payments adjustment process. The growth of bank lending has also posed new policy problems.

The first of these three observations led us to suggest that research should focus on the functioning of the present system and ways of improving it, rather than a grand design for reform of the system as a whole. With so many actors and dimensions, it would be very hard to write a new constitution for the system and even harder to obtain agreement on it. The second and third observations led us to conduct exploratory work in Phase I on two aspects of the system: first, the changing role of the dollar as an international currency, emphasizing in particular its role as a reserve currency, and, second, threats to the stability of the Eurocurrency markets, their implications for prudential regulation, and the roles of the central banks as lenders of last resort.

I will not take time now to summarize our Phase I effort. Some of our work is described in the written version of the paper circulated for today's session. The rest is described in our Phase I report which is, I believe, available to you on request. If you have questions or comments on that work, however, I should enjoy this opportunity to discuss them with you.

To stay within the time limit, I shall pass directly to the last parts of my paper, in which I try to respond to some of the questions that Alan Rapoport raised when he asked us to participate in this colloquium.

Basing our choices on our Phase I work, on staff discussions within our group, and on our consultations with the policy community, the group at Princeton identified three sets of issues likely to pose major policy problems for the United States--the management of risks and preservation of liquidity in the international banking system, the international effects of domestic macroeconomic policies and their implications for the conduct of those policies, and the role and evolution of the International Monetary Fund in light of developments affecting the reserve system and the balance-of-payments adjustment process.

If asked to make my own personal choices, I would pick the same three issues as being preeminently important, but I would add a fourth. It is the need to consider modifications in the exchange-rate regime aimed at reducing short-term and medium-term fluctuations in both nominal and real exchange rates.

Our group's proposal for research on international banking built on the work that we did in Phase I. We planned additional work on risk assessment by banks and supervisors, on measures to reduce the likelihood of default, and on ways to maintain the liquidity of the system as a whole in the event of a default, bank failure, or some other shock. We planned to develop in some detail a proposal put forth in our Phase I report, that the U.S. authorities, acting unilaterally, might guarantee in part the liquidity of foreign banks' deposits held with U.S. banks and their overseas affiliates.

The second and the third subjects would have extended our research agenda beyond what we did in Phase I. We chose the second because we believe that the international ramifications of U.S. macroeconomic policies have become increasingly important, not only for the outside world, but for the U.S. economy itself. In other words, we have to start looking at feedbacks from foreign repercussions. Key policymakers are sensitive to this

issue, but many members of the policy community continue to regard the United States as a closed economy when discussing domestic macroeconomic policies.

We chose the third issue because the IMF and its member governments must make far-reaching decisions concerning Fund quotas and borrowing, the SDR, and other matters affecting the future of the institution itself. The United States must approach these decisions consistently, asking how they will affect the role of the Fund in the international system and the role of the United States within the Fund.

Time does not permit me to discuss all three research proposals, but I would like to say a bit more about two of them. Our proposal for research on international banking took a rather long-run view. It would have dealt with ways to reduce the probability of crises and with contingency planning. One of us, for example, developed a model designed to show formally how banks assimilate new information. He planned to extend and apply it, to show how the functioning of capital markets can be improved by increasing the flow of information and to develop crisis scenarios helpful in designing policy responses. Two other members of the group, working separately, looked at ways to minimize the likelihood of default and arrived at rather similar conclusions--that risks can be reduced by the clear threat of punitive responses, but only if creditors announce them in advance. Furthermore, creditors must do so jointly and tailor their proposed responses to the particular circumstances of the debtors. My colleagues had planned to extend this work and apply it to the hardest case, Eastern Europe, where economic and political circumstances make it very difficult for creditors to develop and announce joint responses.

Joint responses are required in other contexts too. Bank supervisors, for example, must take a common view when judging the effects of a rescheduling on the banks' portfolios, and I gather that this is an issue of immediate concern to some of the regulators. Central banks may have to review their stance as lenders of last resort.

In conversations with bankers and officials here and abroad, one of my colleagues, David Germany, found rather strong support for the studied ambiguity of the present stance, the refusal by central banks to state clearly in advance the steps that they would take in particular cases. To do so, they argue, might invite the very misbehavior they are trying to avoid or might expose gaps in their plans, and that would be worse than saying nothing.

I found a somewhat different view, however, when working through the answers to a questionnaire circulated by the Group of 30. A majority of bankers favor what they described as a clearer understanding about lender-of-last-resort facilities. A number of questions arise in this connection, and I have listed some of them in my paper. My list is very similar to Jack Guttentag's list, but his is longer and more challenging. Recent events have underscored the importance of these questions. Those same events, however, convince me that we should have taken a more urgent view, rather than a relaxed long-run view.

Thus far, the rescheduling of bank claims has given debtors some short-term relief and has done no significant damage to the net worth of the creditors. There have been one or two exceptional cases, but my characterization is an accurate description of the typical rescheduling. That same characterization, however, is another way of saying that reschedulings have postponed problems rather than resolving them. If debtors could expect to face better economic prospects in the next few years--if export earnings were likely to rise sharply and debt burdens to fall on account of a large and sustained drop in interest rates--we might be content with mere postponement. But I am not that optimistic. Accordingly, I believe that work must be done urgently on new ways to handle the debt situation. There must be a significant reduction in debt burdens, which entails a reduction in the present value of the creditors' claims and, therefore, a partial indemnification of the banks by their own governments. In other words, an aid component has to be built systematically into rescheduling and, in my view, fairly soon.

I said before that I would add one issue to the three listed in our Phase II proposal. It may be time for the major industrial countries to reach agreement on ways to limit exchange-rate fluctuations. My text gives some of my reasons for raising this issue--the sensitivity of nominal and real exchange rates to domestic monetary policies, the tendency for nominal and real rates to trace out a medium-term cycle, and the significant effects of exchange-rate changes on real economic activity, even in the United States. I have likewise mentioned one of the questions that has to be considered before the issue itself can be resolved: How much can be achieved by official intervention? This matter is under study in the official community, even more intensively than in the academic community, and we can perhaps look forward to a narrowing of differences. But other questions must be answered too.

If one chose to limit exchange-rate fluctuations, what sorts of rules would one use? Many rules have been suggested. Some of them threaten to substitute rigidity for stability. I am increasingly attracted to some sort of reference-rate arrangement, but only if it includes explicit rules for adjusting the reference rates themselves. In other words, rules to reduce exchange-rate fluctuations must be combined with rules of a gliding-parity sort designed to provide long-term flexibility in both real and nominal exchange rates. Otherwise, we back ourselves into the worst of worlds.

What method should be used to keep exchange rates inside the bands set by the set of rules, once such rules are adopted? Intervention would be needed but might not suffice, and it may therefore be necessary to coordinate closely the objectives and instruments of monetary policies. Then there is the question that has already been raised by our colleagues at MIT: Should serious consideration be given to proposals like those advanced by Tobin and Dornbusch that would "throw sand in the system" by taxing interest-sensitive capital flows or foreign-exchange transactions?

My paper has not followed strictly the outline suggested by the sponsors of this colloquium. In my concluding comments, moreover, I shall go a bit beyond that outline to mention some of the problems that bothered us as we worked on this experimental project.

Key terms in the title of the project gave us trouble from the start. What "options" should we consider? Should we look only at those that the United States can exercise unilaterally, or should we deal also with options that require negotiation or joint action? What is meant by "modifying" the monetary system? Should we have concentrated on a grand design for long-run reform, on piecemeal improvements in present arrangements, on damage limitation, or merely on the conduct of U.S. policies within the present institutional framework? Does the "monetary system" mean the formal framework defined by the Articles of Agreement of the Fund, or does it comprise the totality of arrangements that govern the activities of banks, foreign-exchange dealers, and so forth?

We had another question. To whom should we address our results? The policy community is heterogeneous. It includes economists who are thoroughly conversant with technical issues and are themselves engaged in research on those issues. It includes officials in the Executive Branch and Members of Congress who need to know about issues and options and should, therefore, be able to understand our work but should not be subjected to the jargon in which economists converse with one another.

The difficulty goes beyond language. When we talk to other economists, we should presumably stress the assumptions and caveats that always qualify research results. When we talk to senior officials, we should presumably concentrate on policy initiatives, with appropriate warnings about the risk that we are wrong.

We had one more worry. How should we divide our time in Phase I between research to demonstrate our capability for doing more research and brainstorming about the issues and options that should be considered in Phase II? Looking over the papers for today's session and some of the Phase I reports, I note that the four institutions on the monetary side divided their time differently.

When we raised these and other questions with the NSF staff, we were told that we should try to answer them ourselves, and that our Phase I results might be judged in part on the way we did so. This reply was not unfair, but I'm not sure that it led to the best use of our resources, and it may not have produced the best Phase II proposals viewed from the standpoint of the policy community.

The broad scope and great size of the project as a whole posed another problem. Our own choice of issues for Phase II was necessarily influenced by the interests and experience of those who would be working on the project. Our Phase II proposal did make room for visitors to complement and supplement the staff at Princeton, including Max Corden of the Australian National University and Jerry Cohen of the Fletcher School. But we had to rely mainly on staff at Princeton. One critic of our Phase II proposal said that the

work we planned was work we would do anyway. That is not entirely true. Some of the work will be done in one form or another. Some will not, because we do not have the money. The criticism, however, probably derives from the underlying problem that we faced. Academics have their own research priorities. These are hard to modify, even with the promise of long-term research support. We had, therefore, to compromise between the intrinsic importance of the issues as we saw them and the willingness and ability of staff to work on them. I am not dissatisfied with the compromise that we worked out, but I wish that the design of the competition had not forced us to make one.

RALPH BRYANT:

I am going to start by saying that I am uncomfortable with the progression from right to left here. I would like a promise from everybody in the room not to report to Bruce McLaury that Brookings is considered on the left with respect to these other institutions, or I will be in trouble with him.

In thinking about how to organize my comments, I decided it's just not feasible for me to go into substantive conclusions given the number of areas we tried to cover, so I'm going to do something a little different than the other speakers. I'm going to give you an overview of the Brookings program as we conceived it in Phase I and then tell you what we're planning for the first several years in Phase II. I hope that that information will be useful to you. The Phase I report and the supporting papers are available and I'd be happy to provide them if it's not easy to get them through the NSF.

When we originally designed our Phase I proposal, we identified seven different areas in which we promised to look at the problems that were of concern to policymakers. We planned to develop our perspective in those areas, to survey them, and to narrow down an agenda for future research. Those areas were: the institutional evolutions of international organizations (particularly the IMF and the World Bank, but not exclusively); the whole question of exchange rate variability and exchange market intervention; reserve asset characteristics of the international monetary system; the question of macroeconomic interactions among the major industrial nations; the roles of the oil exporting nations in world payments and balances and financial flows; the question of supervision and regulation of international financial intermediaries, or more precisely, the international activities of financial intermediaries; and the question of the developing nations and their role in the international financial system and problems of the new international economic order. In the end, we added an eighth area which we felt to be important--the question of East-West financial relations, particularly financial aspects of relationships with Soviet bloc countries.

Our thought in starting this work was that to be responsive to the NSF design of this program, we needed to consult very intensively with people in the policy community to get a reading on what they thought the problems were. As described briefly in the paper, we had an extensive series of lunches and meetings with them. The typical pattern was to sit down for an

hour and a half with a single individual, try to touch on each of these areas I've mentioned, emphasizing the ones where the individual had the greatest expertise, with the intention of formulating a list of problems. We would then go back and think about these problems in order to further refine the questions we would ask. At the end of this process, we did a second iteration: bringing some of these people back, presenting them with an initial agenda, and trying to get them to further lean on us to say this isn't as important as that, or we don't agree with you that this should be on the agenda. We envisage continuing to use intensive consultations with the policy community as we go into the Phase II work itself.

The paper that you have identifies four different themes that we think run through all the areas I mentioned. Again, I don't think it's practical to try to summarize what's in the paper. For those of you who haven't had a chance to look at it, let me just identify what those underlying themes are.

The first, that's already been mentioned by at least one other speaker, is the question of the increasing openness of the U.S. economy and the implications of that increasing openness for macroeconomic policy. The facts about the increasing openness on current account are familiar to everyone in this room. We believe that financial interdependence has been increasing at least as rapidly as openness on trade accounts, and that is one of the reasons why we've given as much emphasis to this theme in our work as we have.

The second theme we described as increasing pluralism in the world economy and world policy. That is both a question of a larger number of nations participating in intergovernmental discussions and a greater diffusion of power and influence among the largest countries. Sometimes it is also stated as the declining hegemony of the United States, but I think it's a far more pervasive trend than that. This trend has quite fundamental implications for all the substantive areas I mentioned, and, in particular, it's closely related to the third underlying theme--the increasing importance of international organizations. We spell out in the paper why we think these two themes are so closely linked together.

One would have to say that organizations like the Fund and the Bank have very limited authority as institutions now, and, in fact, there is a reluctance to give them more authority. At the same time, the collective-action problems in the world economy, such as externalities and public goods problems, are getting more and more severe. This is driving countries to consult more intensively and to try to cooperate more intensively through various kinds of institutions. So even though there is a reluctance to yield any political sovereignty to international institutions, the fundamental trends in the world economy are driving things in that direction. Thus, it is quite important for U.S. policymakers to consider the evolution of these institutions and to decide which pattern of evolution is most in the interest of the United States.

Finally, as the fourth theme, we believe that there is a great deal of analytical uncertainty about how the world economy functions. When one tries to define research topics or to define policy issues more closely, one constantly runs up against this analytical uncertainty. In this paper very briefly, and in more detail in the Phase I report and in the supporting papers to the report, we try to characterize some of the most important aspects of this analytical uncertainty. Analytical uncertainty is a theme that cuts across all these substantive areas and has influenced our decisions about the initial agenda for the research that we're going to try to do in Phase II.

In the paper that you have, I've gone through each of the eight substantive areas I mentioned at the outset and tried to summarize some of the conclusions that we reached in our Phase I reports and its supporting papers. Rather than going down that list let me say it should be obvious to everybody in this room that there are intellectually challenging and potentially important policy issues in each of those areas.

It would have been altogether infeasible for any of us who were competing in this program to try to define projects in all of the areas discussed in Phase I. One of the things that we tried to do in our Phase II proposal was to narrow down the agenda and drop some areas out altogether--not because they weren't interesting or because it's not important for someone to be doing research on those policy issues, but because it was not profitable for us to undertake research in the areas relative to the areas we did select. It would have been much too superficial to have selected all the areas for study.

I would now like to identify those areas on our narrowed agenda and also indicate the problems that we're going to tackle in the first two years of the program. But, before I do that, let me just briefly characterize some of the features of our program that are not substantive but which we think are crucial to whether we can accomplish the objectives of this experimental program of the National Science Foundation. We have tried to define a rolling research agenda based on the consultations we've had in the past year and our own thinking. Although we have narrowed this agenda down to a specified set of areas and topics, we are quite conscious that whatever decisions we make now may look somewhat inappropriate a year from now. We therefore want the flexibility to be responsive to policy problems as they change.

However, we want to guard against the possibility of grasshoppering from one set of issues to the next. It would clearly be undesirable to revise this agenda every month or every quarter, but we don't want to be locked in rigidly to a set of projects that span the whole four-year period. If I can be permitted to use the jargon of optimal control theory, what we have in mind is open loop planning with continuous feedback. At least twice a year, we plan to sit down with a policy advisory panel, give them some sense of our current projects and ideas in the pipeline, and encourage them to lean on us to alter that program if they believe that priorities should be substantially different from those that we've set. We have

several other ideas for continuing this consultation with the policy committee which are described in the paper, so I won't summarize them here.

We also want a set of arrangements for consulting with the academic community on what the research agenda should be. We, therefore, are setting up an academic advisory group and also planning to commission outside participants to undertake a large part of the research. I'm a little bit uncomfortable with what was said at the outset at this session about co-opting. I haven't yet talked to Dick Eckaus and Don Lessard at MIT about possible projects that MIT can do, but that's mainly due to negligence on my part and to the fact that I took a vacation in August. We hope to find the individuals most capable of doing particular projects that we've defined on the agenda and to sign them up to do that. We realize that in many cases the best people to do a project are outside the Brookings Institution. We are, in fact, developing procedures for commissioning such papers and trying to fold that work into the program.

The types of output that we envision coming out of the project are mainly staff papers, which are typically quite short and deliberately non-technical. Some of the work will, of course, take the form of working papers that are more technical, and on some occasions conference volumes or monographs will seem appropriate. We're going to try to put most of output into a format that will make it as readily accessible as possible to policymakers.

In the last few minutes I have, let me try to give you an idea of the projects that we've defined on our initial version of this rolling research agenda.* There are 11 different research streams in the rows of the table distributed to you. We hope that it will be possible, at some point during the four years, to give some attention to each of these streams. In the first year or two, the idea is to narrow the focus to only five of these areas--those with the dark arrows. In a very rough and ready way, the width of the arrow will give you some sense of the emphasis that the particular research stream will get in our initial project.

The first two research areas (involving evolutions of international organizations), we think, are worthy of focusing on at the outset, in part because there are a number of policy questions about the IMF that are currently of great interest to U.S. policymakers. What we have in mind is a paper or papers that would provide an analytical description of the current status of the roles of the Fund, in particular differentiating between three roles--the role of the Fund as a lending intermediary, the role of the Fund as a forum for intergovernmental consultation about macroeconomic policies, and the role of the Fund as a central monetary institution for the world as a whole that's concerned with outside reserve asset questions.

*A sheet listing the projects was passed out to attendees of the colloquium during Dr. Bryant's presentation.

TIME PROFILE OF RESEARCH AGENDA
(Revised June 25, 1982)

<u>Project areas</u>	<u>First Year</u> (Aug. 1982-July 1983)	<u>Second Year</u> (Aug. 1983-July 1984)	<u>Third Year</u> (Aug. 1984-July 1985)	<u>Fourth Year</u> (Aug. 1985-July 1986)
<u>INSTITUTIONAL EVOLUTIONS OF INTERNATIONAL ORGANIZATIONS</u>				
A. What Should Be the U.S. "Vision" of the IMF and Other International Financial Institutions?	—————→		?	?
B. Intergovernmental Consultations about National Macroeconomic Policies	—————→		→	→
<u>MACROECONOMIC INTERACTIONS BETWEEN THE U.S. ECONOMY AND OTHER NATIONAL ECONOMIES</u>				
C. East-West Financial Relations			?	?
D. International Financial Intermediation:				
Prudential Issues (Vulnerability of World Financial Markets)	—————→		→	→
Non-prudential Issues (Secular Trends in Regulation, National Monetary Control, and Allocation of World Savings)	—————→		→	?
E. International Aspects of U.S. Fiscal Policy	?	?	—————→	→
F. Transmission of Economic Forces between the U.S. Economy and Major Foreign Economies	-----	—————→		→
<u>EXCHANGE-RATE AND RESERVE-ASSET CHARACTERISTICS OF THE INTERNATIONAL MONETARY SYSTEM</u>				
G. Exchange-Rate Variability and Exchange-Market Intervention	—————→		→	→
H. Alternative Evolutions of the Reserve System	?	—————→	→	?
I. Outside Reserve Assets	?	—————→	→	?
J. The Demand for Reserves and the Global Adequacy of Reserves	?	—————→	→	?

We also intend to do some work on the division of responsibilities between the IMF and the World Bank, an issue that troubles some people since the Fund has increasingly gotten into longer term lending, concentrating on the developing nations. Towards the middle of the program, in the second year, we hope to focus more narrowly on U.S. policy towards the IMF and some of the major alternatives in this respect.

The area of intergovernmental consultations about national macro-economic policies is one that we hope to do some work on in a very practical institutional way and also in a more theoretical way. On the practical side, we think there's a need for a survey of the main institutions that are involved in the process of intergovernmental consultation. In addition to the Fund, these include the OECD, the Bank for International Settlements, the summit process, and several others that are somewhat less important. We hope to evaluate the relative strengths and weaknesses of those channels for consultation from the perspective of U.S. policymakers and to determine what issues deserve deeper examination. In particular, we want to do some work in the first year on IMF surveillance, both evaluating that process as it has worked until now and looking at alternative ways in which that process might evolve.

On the theoretical side, we think there's a need for posing the problems of interactions among nations, particularly macroeconomic policies, in a game theoretic context. One problem we hope to do some work on initially is the question of cooperative contingent policymaking. Given that there isn't any supranational policeman, how does one try to design international agreements that are self-enforcing, that are in the interest of none of the participants to break. An example would be the International Energy Agreement and its conditions about stockpiles. If that agreement is to be successful, it cannot be in the interest of any country to break the agreement if, in fact, some disruption does occur.

In the area of international financial intermediation, we're very pleased that Jack Guttentag and Dick Herring are going to be part of the Brookings program. They plan to look at some of the issues that they have discussed in their Phase II proposal--particularly those dealing with prudential aspects of the international financial system. In addition to the issues they've already discussed we are interested in several others which one might not think of as having as prudential an emphasis. For example, one important issue relates to the discrepancies in regulatory and supervisory environments across countries and the manner in which the internationalization of banking is eroding those discrepancies and forcing individual nations and, in particular, the United States to make decisions that they might not like to make but can't avoid.

Finally, and probably the most important of the five areas that we're going to concentrate on initially, is the area of exchange-rate variability and exchange market intervention. We've tried to outline a number of projects that we would undertake on issues of exchange rate variability, focusing in particular on how these issues affect the United States. The question of why we had these big medium-run swings in the dollar's exchange rates is one area we want to look at very closely. The cost and benefits to the United States of these swings is also an important issue to be examined. Much of the work we will do is eventually pointed towards policy

issues about exchange market intervention, a subject on which there's already quite a lot of official work going on.

I'm over my time limit, so I'm going to cease, but I would be happy to respond to questions after coffee.

DISCUSSION

DR. RAPOPORT: Before we begin the general discussion, Peter Kenen would like to say a few words.

PROFESSOR KENEN: Alan, I asked for the floor for just a moment, before some people have to leave, to say on behalf of winners and losers, co-optees and co-optees, that all of us have learned a great deal from this exercise. It's been an interesting experiment and I'd like to say to you, Alan, and to your colleagues that, even though we have had our disagreements, we have enjoyed working with you. We thank you for your help and cooperation as we worked our way through a difficult and complicated exercise.

PROFESSOR LESSARD: I would like to add a note of thanks to individuals in the policy community who were very gracious in meeting with us, especially since many of them were approached by three or even all four Phase I participants (as well as a number of participants in the trade project). If the NSF repeats this type of exercise, I believe it would be useful to coordinate some of these initial discussions to avoid duplication, and in the process, sharpen the identification of policy issues and perspectives.

PERRY QUICK (Roosevelt Center for American Policy Studies): In domestic financial markets, we're experiencing a great deal of innovation which is taking banking functions beyond the realm of solely commercial banks. With regard to the part of the international banking regulatory project defined by the Wharton people, how much of the focus is going to be on prudential problems of non-bank financial institutions, or will the project just be focused on commercial banks?

PROFESSOR GUTTENTAG: Well, a quick answer to that question is that the principal institutions that cross national boundaries are banks. There isn't much in the way of an international savings and loan market. You get a few savings banks and finance companies that cross national boundaries. But basically what we're talking about are banks, because banks are the ones that engage in worldwide activities through affiliates and branches in different countries.

PROFESSOR HERRING: It should be noted that what is a bank is a very fluid definition, and in fact, part of the forces that are redefining what a bank is in the United States are pressures from the outside world where entities called banks do a number of things that U.S. banks are constrained from doing inside the United States. For purposes of our study, we would, for example, look at Merrill Lynch's activities abroad as banking. Similarly, American Express is an important international bank, although it's not a domestic bank at all. Innovation is an important component of the problem, but one which I think Ralph Bryant is going to be focusing on perhaps a bit more than we.

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DR. BRYANT: To put it another way, any financial institution that operates extensively across national boundaries, we will, for operating purposes, define as a bank. It is certainly the case that in some of the work that I have been doing, I've been interested in the lack of a clear demarcation between domestic financial intermediation and national intermediation that goes across national borders, precisely because many of the very interesting things happening in U.S. financial markets are breaking down the distinction between bank and non-bank financial intermediaries. I think this is going to have important consequences for the international aspects of banking. If Sears becomes a financial department store, you can be sure that the international aspects of its activities will get increasingly important too. Just to give you another example, the issue of the McFadden Act in the prohibition against interstate banking in the United States is closely related to the international aspects of where banks choose to locate activities. This gives you another set of problems which, I think, are of the sort that you're getting at by your question.

PROFESSOR KENEN: Could I add two comments? I'm inclined to agree that, with regard to the complex issues that are facing us today, the banks are the key institutions. For some purposes, one might want to look at the extent to which pension and other funds are involved in the acquisition of Eurobonds and other international instruments. Their activities, however, are not now nor likely to become sufficiently important to raise questions about the capital positions of the institutions themselves or the functioning of the international financial system.

But one must also look at the reactions of domestic institutions to the problems of the banks. All of us who wrote our Phase I proposals on banking problems concentrated on the interbank market. We said that it would be the focal point of any crisis. The Mexican situation says we were wrong. The focal point has been the New York money market, because of the heavy involvement of U.S. banks. Bankers are nervous, and rightly so, about the possibility that money market funds will cease to buy the banks' CDs on account of their international problems. The banks, then, are the institutions on which we must concentrate, but we should also look at the reactions of domestic financial actors, whose decisions will determine the seriousness of the banks' funding problems.

PROFESSOR LESSARD: There's a more general issue underlying that of international bank lending, which I hope is addressed. International finance increasingly takes the form of non-specific credit intermediated by banks, but this is not the only possible structure. Historically, securities markets played a much larger role than they do now. While most financing was in the form of fixed income securities, some was linked to specific enterprise or project outcomes. In examining North-South finance, I am struck by the limited extent of contingent securities in international markets where risks are transferred only through non-performance with major institutional effects.

Many innovations have been suggested. John Williamson has suggested indexed bonds. The Mexicans have actually issued petrobonds. Had they issued a few more, they might have had a less serious problem now. We

ought to ask not only how we can solve the banks' problems, but why is it that virtually the only international financial market that is functioning now is the commercial bank market. Why is it that securities markets are not functioning? Why is it that there are virtually no explicit risk-bearing instruments, in contrast to domestic markets? To what extent do direct foreign investors act as financial intermediaries, etc? Clearly, banks are only a piece of the puzzle.

MAX KREININ (Michigan State University): I'd like to raise a few questions that perhaps you can address. I didn't hear them referred to specifically, although peripherally they may have been mentioned. The first is the question of exchange rate protection. If you look at the Japanese yen, for example, at 265 yen to the dollar, to what extent is that a result of deliberate Japanese policies? How much does it deviate from so-called equilibrium exchange rate? How much protection is embodied in it? How much of our trade problem with Japan in some highly visible industries is the result of the fact that the yen is at 265 instead of 200?

To measure the equilibrium exchange rate, Larry Krause uses the relative cost of skiing in the Alps and in the Rockies, regarding it as a homogeneous good. Another guide is the prices of the International Herald Tribune, in various currencies. Not much was said about that. In discussing the intermediate-run swings in the exchange rate, we concentrated on the dollar exchange rate in the 1977-78 and in the 1981-82 years. Is there any other evidence to support the notion of the intermediate swings phenomenon? What about non-dollar exchange rates? Is there such evidence there too? Lastly, I'm wondering whether anyone is contemplating a study of the possible regulations of the Eurocurrency market.

DR. BRYANT: The first three of your questions have to do with exchange rates. I think we do hope to get at some of those issues in the project that we've outlined, perhaps not in quite the way that you've formulated them, but I think we would address ourselves to those issues.

The question of whether exchange rates are in equilibrium or disequilibrium, as you know very well, is an apparently simple one, and in fact, an extraordinarily complex one. If one's answers to it are model specific, perhaps inevitably so, and since there's so much disagreement about which variety of models is the appropriate one, you can get a wide variety of answers to that question. What we hope to do is to start out by evaluating the different classes of models that are used and trying to identify some actual scenarios which compare with what we actually saw, particularly in the experiences of 1977-78, and 1981-82. Then, if one has a different path in mind for the exchange rate in this hypothetical comparison, one can define what interesting assumptions are being made about macroeconomic policies and policy mixes. That's not a trivial problem.

We thought we would focus our work on the medium-run swings in dollar exchange rates because of obvious interest from the point of view of U.S. policymakers. It is certainly true that in some of the other non-dollar

exchange rates, there are also important swings, so it's a general phenomenon that's of analytical interest. We would hope that we would get at some of those questions, while concentrating on the problems from the perspective of the United States.

The question of regulating Eurocurrency markets does fall within the purview of the manuscript I'm working on, and in a different sense, it definitely falls into the work that Dick Herring and Jack Guttentag are doing. There's a rough division of labor which I referred to before. They are especially interested in the prudential issues, the ones that are perceived as very important at the moment. There is also a secular problem. Even if we didn't have the financial instability in the world economy in such straits as it is, other aspects would be there. These include, for example, erosion of monetary control by any single individual nation by the shift in location of banking activity outside of national boundaries and the propensity of all countries to discriminate in favor of external currency banking. So there's a set of issues that are important even without the financial instability, but then, of course, they interact with each other.

PROFESSOR ECKAUS: I speak for my absent colleague, Rudi Dornbusch, though not with his expertise, to try to represent his point of view to some degree. I think it would be correct to say that Rudi Dornbusch does not believe that it is a reasonable description of foreign exchange markets to say that foreign exchange rates are in equilibrium. They oscillate much more than anyone would have thought five or ten years ago that equilibrium rates would oscillate. Moreover, their volatility and their sensitivity to monetary policy suggest that whatever rates we're observing are not the result of fundamental real characteristics of the economy alone. Rudi has suggested that we ought to explore the possibilities of bubble models, i.e., speculative models of exchange rate determination. Those speculative models have in the past been rather put aside, but there is the relatively recent work on monetary theory that suggests that there can be at least short-run equilibrium in speculative models. I don't know how to demarcate the intermediate from very short run, but what we do observe is a lot of volatility over very short as well as somewhat longer periods of time, and we need some new models to explain it.

PROFESSOR KENEN: Picking up where Dick Eckaus left off, I find it rather odd that so many economists are willing to ascribe a "herd instinct" to banks in explaining the banks' lending to developing countries--particular borrowers come into fashion, everyone runs to offer them money, and so on. We invoke this sort of imitative behavior when we look at banks as lenders, but in most of our thinking about foreign-exchange markets, we take a totally different view. Even those who do not subscribe to the rational expectations hypothesis rarely allow for the possibility of extrapolative expectations. Rudi is different. He has perhaps moved too far in the other direction. But most of us should introduce a little more irrationality into our models of exchange-market behavior to explain realistically what has been happening.

Let me address myself more specifically to the issues that Max Kreinin has raised. He asked about the regulation of the Eurocurrency market but did not get a complete answer. When one speaks of regulating the Eurocurrency market, one can have two aims in mind. First, there is the set of prudential issues on which we've been concentrating in our discussions today. These will be very well covered in the Phase II project, jointly by Jack Guttentag and Dick Herring and the staff at Brookings. Second, there is the set of macroeconomic issues that gave rise to great concern a few years ago--the role of the Eurocurrency market in propagating inflation and the extent to which it was undermining national monetary autonomy. These issues were not given high priority in any of our research designs. We at Princeton looked at them and read the preponderant evidence as saying that the Eurocurrency multiplier is not very high. It may not even be a meaningful concept. I gather from your work, Ralph, that you took the same view. So the answer to your question, Max, depends on what you mean. If you mean prudential control, it is covered. If you mean macro control, it is not covered.

Turning to another problem raised by Max Kreinin, let me report some results of my own. I have been running exchange-rate equations much like those that Bill Branson ran a while ago, except that I've made the rate of change of the nominal exchange rate dependent on the level of the current-account balance and on the rate of growth of the money supply. I find something odd. In the equation for the yen-dollar rate, the U.S. current-account balance is significant and of the expected size. The Japanese balance is not. And, I get the same sort of result for the mark-dollar rate. Now think about the way that exchange rates are behaving. The yen and the mark have been weak for the last couple of years, yet Japan has had a very strong current account and Germany has had a weak one. These patterns and my own regression results suggest to me that we are looking at a dollar problem, not a yen or mark problem. One must admit, however, that most of the work on medium-term swings in exchange-rate swings has focused on bilateral dollar rates. Too little attention has been paid to the medium-term behavior of non-dollar rates--the sterling-mark, sterling-yen, and mark-yen rates, for example.

On exchange rate protection, I think it fair to say that no one knows the answer to Kreinin's question, nor has anyone found a satisfactory way to answer it. To what extent is the undervaluation of the yen deliberate? The best answer may be tautological. If the Japanese were really uncomfortable with it, they would do something about it.

BEN CRAIN (House Banking Committee): I have an IMF question for Ralph Bryant. In reference to the comments you made, Ralph, about the three aspects of the IMF that you were going to focus on, I took them to be a forum for government consultation, the IMF's role as financial intermediary, and a monetary type institution with some kind of responsibility for outside reserve assets. It struck me that you didn't say a thing about the nature of IMF conditionality, the nature of the adjustment program, and essentially whether it works very well, whether anything can be done to improve it, whether the set of assumptions and adjustment programs the IMF typically imposes is accepted to be more or less correct. Now, did you

intend to ignore this, or is it subsumed under what you've said, or is it a practical problem that you don't think you can get a very good handle on, or is it just not an issue?

DR. BRYANT: I mean for my three-way classification to be exhaustive, and I certainly did envisage conditionality and all of that under one of the three, that is the role of the lending intermediary. The conditions under which it lends, its clientele, the maturity--all those things--are very important, and John Williamson has a recent essay in a forthcoming book which deals with that. I think there may be some more urgency in looking at several other aspects of the Fund's role as a lending intermediary rather than at conditionality, but I don't suppose even John would believe that all of the issues there are definitively treated. We definitely do envisage trying to bring those in.

JOHN WILLIAMSON (Institute for International Economics): I want to go back to the first round of discussion about banks and other financial intermediaries. If one is discussing the past, then surely it is true that one is essentially discussing the role of banks in the international financial system. But in discussing policy options for the future, I would want to urge very strongly that you not limit yourselves in this way. The latest trend indicates a drying up of bank credit, which could have very serious consequences for the world economy in general, unless it is replaced by credit from another source.

I've thought for some years that banks are not in fact the logical place to look to as the major transferers of financial capital to developing countries, since one really needs much longer term loans than can be handled by banks. One should therefore be thinking of ways to try to get pension funds, in particular, in on the act of supplying major sums to developing countries, and I would like to see that come into this project.

PROFESSOR GUTTENTAG: Your points are well taken, and we will take them under advisement.

JACOB DREYER (Department of Treasury): I have one modest request and one general remark to make. The request is addressed to Peter Kenen and refers to the change in preferred policy mix he appears to contemplate. If I understand him correctly, he suggests shifting monetary policy toward achieving external objectives, and in particular toward exchange rate management. I would appreciate a brief heuristic explanation of what he thinks the likely consequences of such a policy shift would be.

The remark I would like to make concerns the same point I have been raising repeatedly at various meetings and during informal debates held in connection with the NSF project. What disturbs me is that the thrust of most, perhaps all, proposals to prop up the international financial system has been in the direction of increased commitment of public monies in one form or another. Calls for strengthening the role of the lender of last resort by central banks fall in this category as well as various schemes referred to as "safety nets" provided by central banks of industrial nations and/or their governments, large expansion of IMF quotas, special funds for emergency lending and so on.

All proposals barely make references to the possibility of using private funds for strengthening what is after all a network of private lenders. The only notable exception is the Guttentag/Herring discussion of a possibility to set up a global insurance mechanism patterned after the FDIC, a possibility they dismiss. To my knowledge, no other schemes involving use of private funds are explored in any detail. I would like to find out whether unwillingness to consider such schemes is due to the difficulty in conceptualizing such a scheme or to skepticism that such a scheme can actually be set up and its provisions enforced.

PROFESSOR KENEN: You've caught me, Jacob, using sloppy language. If monetary policy is assigned to external balance in a flexible-rate world, it is necessarily assigned to the stabilization of the exchange rate. In that case, the exchange rate cannot be assigned to internal balance. The elliptical phrase that I used, "reversing the assignment," is not appropriate. It would be better to say that it is wrong to assign monetary policy exclusively to a domestic objective, without concern for the effect on the exchange rate and its effect in turn on the domestic economy. I plead guilty to bad phrasing, but not to a bad policy recommendation.

PROFESSOR GUTTENTAG: On your question about the possibility of an international type FDIC, Dick Herring and I did look into that question in the process of preparing our Phase II report, and we do have a short memo in which we explained why we don't think such a proposal is workable or feasible or would be in the foreseeable future, and why, therefore, we did not intend to give it any further attention. If you would like, I could send you a copy of that.

DR. BRYANT: May I just add something to what Jack said, although really Dick and Jack are the ones to spell out these arguments in greater detail. Remember, there's a moral hazard problem in providing lender-of-last-resort facilities and deposit insurance. The moral hazard problem is that if you assure banks that on a rainy day they can come in and get emergency liquidity assistance at a discount, or that depositors will definitely be paid off by deposit insurance, on sunny days the banks may go out and take risks, making loans with excessive risks from the social point of view.

A basic rationale for more stringent regulation of financial intermediaries, especially banks, than for non-financial corporations is that you believe it's important to provide lender of last resort facilities and maybe deposit insurance, but that then leads pretty quickly to the central bank's feeling it has to look over the shoulder of commercial banks to restrain them from taking risks that would be excessive.

Now in an international system, where we don't have a supernational bank which is discharging those facilities, to create something like an international deposit insurance scheme requires also international agreement on regulation, or at least many people would assert that those two go together. Hence, you are back in the middle of very difficult issues that are not just financial stability issues, but go to the heart of regulation of the financial environment in each country. That's at least one reason why I think it's putting the cart before the horse to speak about international deposit insurance.

JACOB DREYER: I would like to pose a rhetorical question. It is clear, I think, that very large banks realize that they will be shielded against the most unpleasant consequences of non-repayment of loans by their sovereign debtors. In other words, these banks know that public authorities, national or supranational, will somehow bail them out. Furthermore, syndicated loans usually contain clauses ensuring that possible losses are shared proportionally among the members of a syndicate. Consequently, small banks participating in syndicated loans realize that they also will be bailed out somehow along with large banks. This realization by banks, essentially correct as recent experience shows, is akin to having an insurance policy against certain risks without the necessity to pay an insurance premium. Simply put, international lending has thus become a subsidized activity and, as we all know, a subsidized industry tends to overexpand beyond the optimal level of output. Therefore, it is not surprising that, until very recently, we witnessed overlending by the international banking community.

Now, if an international insurance scheme financed by actual or contingent contributions by public authorities were to be set up which would formalize the banks' understanding I alluded to earlier, that would make the risk insurance policy explicitly binding and, hence, increase the subsidy. If, on the other hand, a practical way could be found to compel international lenders to contribute to such an insurance fund premiums related to the degree of riskiness of loans extended, insurance costs of international lending would become internalized (with the incremental cost shared by lenders and borrowers) and the allocative efficiency of international lending would be enhanced.

DR. BRYANT: That's what I was trying to draw attention to, but I don't think that leads you to imagine you could get international agreement on a deposit insurance scheme. That would increase the subsidy, if you will.

JACOB DREYER: Well, whether it would decrease or increase the subsidy depends on the agreement. An agreement to explicitly subsidize them naturally would increase the subsidy. However, if this were an agreement to put aside a portion of their loans which are somehow related to the relative risk, then I do not see that occurring.

PROFESSOR HERRING: Let me change the subject just slightly to add to your point. We see the notion of an implicit guarantee for the largest banks in each of the major countries as a substantial problem with the existing lender of last resort arrangements. By choosing to be somewhat vague and ambiguous, central bankers are not really making market participants more careful. Rather, the market will presume (quite plausibly) that the largest banks in each country are most likely to receive emergency assistance. As a consequence, banks often allocate their interbank lines by simply selecting the largest banks in each country. The policy gives an unwarranted subsidy to large banks relative to small banks and may distort the allocation of resources.

LISLE WIDMAN (formerly with the Department of Treasury): In your comments on what you propose to do on intergovernmental consultations about macro policies, you concentrated on the official institutions, mentioning the Fund, the BIS, and the OECD. You did mention the summit. Now, perhaps

you meant to include the informal arrangements under that summit heading or perhaps under the IMF heading. Certainly in our past experience, it has been essential that successful consultation on macro policies has to be conducted in an extremely small group. It has to be very informal. It has to be able to operate without 3000 media representatives bearing down on the members. It is this area of small, informal groupings that may offer the opportunities for the most effective consultation. I just wanted to be sure that you intended to take that into consideration in developing your thoughts on effective consultation.

DR. BRYANT: We do.

LARRY FOX (National Association of Manufacturers): I wanted to say that mercantilism is alive and thriving. It has different names, but it is frequently called industrial policy now. I would like to suggest that there is a connection between this monetary-financial subject and the competitiveness one, and, of course, the nexus is the exchange rate. I suggest that you really take a careful look at the yen-dollar exchange rate. It is perfectly obvious that the undervalued yen is contrary to the economic fundamentals as they relate to industrial competitiveness in manufacturing, and that the misalignment of the yen and the dollar is exacerbating problems of containing protectionism all over the world.

We need a better answer than the exchange markets will produce the "right rate" eventually. We don't really know whether the Japanese intend to maintain the cheap yen or not, or even whether they can control the elements in their financial system as it relates to international monetary transactions. However, I would venture the opinion that an undervalued currency has been part of Japanese industrial policy for 30 years and continues to be.

Industrial policy seeking to use an undervalued currency may also offer some explanation as to why current account balances have these peculiarly different results in Germany, the United States, and Japan. The Germans understand the value to the industrial base, at least, of an undervalued currency. I would like to urge an explicit look at this subject as a competitiveness subject as well as a technical exercise to improve the functioning of the international monetary system.

DAVE RICHARDSON (University of Wisconsin and the National Bureau of Economic Research): Larry, that's part of the National Bureau's project, and you'll hear about it tomorrow morning a little bit, if you'd like. We agree with you on the importance of the issue.

The question I had was that in the verbal presentations, I haven't heard anything about what I think are classic issues from old-fashioned international monetary reform, and yet where the U.S. still has some initiative, such as extended swap networks or safety net programs or what is the role of gold as the U.S. sees it? Is there any role for gold anymore? Is there any possibility of a substitution account that makes sense given dollars, marks, and even yen now in official reserves? I was struck by not hearing any of that. Is that to be a part of projects, and if not, why not?

DR. BRYANT: If you will look at the sheet that was handed out, Dave, under H. I. and J., we, in fact, have identified a number of things that deserve attention that bring in all those things. We have felt, all things considered, that they were not as urgent as some of the others. So as far as our own thinking goes, having identified them, we put them on the shelf and expect at some point we will have to get into those.

Let me just give you an example. If the substitution account looks a lot more alive than it does at the present, I think we will want to shift over and continue some analysis that several of us have done already and get other people to help with that, but it was the decision not to do something on that now. It was partly that policymakers themselves don't feel it's very urgent and were less interested in it. The same thing for the role of gold. Potentially one could imagine very difficult intergovernmental discussions about that, but they don't look to be on the near-term horizon so that we've kind of got them in second place, not in first place, on our agenda.

PROFESSOR KENEN: A few words inspired by Dave's reference to research projects in the plural. He seems to believe that all four research projects will go forward. They will not. We at Princeton will not be able to do the work we would have done if we had won the NSF award. Repeating what I said before, we did not design our Phase II proposal to finance work that we were planning to do anyway. Some of the work will still be done, but even those parts may be done rather differently, with less attention to the payoff for U.S. policy. Let me put my point another way. The NSF project has been important and successful in mobilizing research efforts that will now go forward in Phase II. The rest of us, however, cannot be expected to do what we had planned. We will not have the resources or incentives to collaborate.

Picking up one other point, I did a great deal of work on the substitution account and have already published it. I was hoping to do more, because I had a program up and running, and several permutations that I wanted to investigate. But I got the same reading that Ralph reported. No one is interested. Put it on the back burner. We'll see what happens.

TOM WILLETT (Claremont University): I noticed Peter Kenen's paper presented some calculations of the share of the dollar in optimal portfolios. These tended to run around about 25 percent. My recollection is that in other studies quite higher shares of the dollar in portfolios were calculated. I was wondering if, in fact, that was right. If so, what were the main causes for the differences, and do you see these results as having major implications for substitution accounts, private use of the SDR, and the stability of our multiple reserve system?

PROFESSOR KENEN: If you will look at Table 7 of my paper, you will see that the currency shares in the total portfolio are almost identical to the expenditure shares in Footnote 19. In this particular portfolio, speculative positions are fairly small, so that the shares in the total portfolio are close to those in the investor's minimum-variance portfolio,

and these in turn are dominated by the expenditure shares. For more, please see Jorge DeMacedo. He understands it better than I do.

EDWARD GRAHAM (University of North Carolina at Chapel Hill): Having spent some time at MIT a few years ago, I am gratified to learn that Rudy Dornbusch now believes that speculation can play some role in exchange rate determination. When I attended Dick Eckaus' seminar in my MIT years, I remember Dornbusch being quite hostile to suggestions that speculation might have destabilizing effects upon exchange rates.

During this past summer, I visited the Kiel Institute in West Germany, and there saw some very interesting analyses of dollar-mark exchange rates. These rates have regularly deviated from rates that might be predicted by a model based on purchasing power parity between the years 1973 and 1982. During various intervals during this time period, the dollar has been "overvalued" with respect to the mark, but at other times "undervalued." In order for it to go from "undervaluation" to "overvaluation" or vice versa, it has had to pass through equilibrium, as predicted by purchasing power parity. This it has done several times, going in one direction or the other.

What this would suggest is that in some sense, "rational expectations" are working, but somewhat erratically. It would appear that participants in the international financial system exhibit some quirkiness in their expectations of currency parity movements. My question is, will the proposed research investigate what exactly is the expectations formation process, in particular on the part of certain very large actors in the financial scene? Here I have in mind, I guess, large multi-national corporations, about which we've heard very little during the presentations.

DR. BRYANT: The set of problems which you've asked about are ones that are very much on our minds in the set of projects on exchange rate variability, and in particular, on how to fold in long-range expectations of the exchange rates into the rest of the analysis. There's lots of recent work on that, some of which I've read and some of which I haven't read yet. If I had to characterize the views of those of us who were likely to be working on this, some of them at Brookings and some outside, we have sort of a mixture of views, and, if anything, we're eclectic about just how to do that. There's a variety of models which bring in expectations, and I think those are worth looking at, but we don't intend to restrict our attention to small models in asking the question. That's just to say that those problems are important, and we do hope to look at them. I certainly can't say anything intelligent about them today.

FRANK SCHIFF (Committee for Economic Development): I noticed that the Brookings project provides for consultations with academics and also with, I assume, primarily government policymakers. Will you also develop some systematic way of consulting or surveying some of the other actors in this area, such as business corporate executives and financial institution executives? I know there are great problems in going and asking what people think they're doing. Nevertheless, there might be valuable insights that

could be gained if you had some systematic approach to interacting with this broader community.

DR. BRYANT: Frank, it is our intention to include several people from the private sector in our policy advisory panel. I think we had in mind primarily people in the banking community without, at this stage, trying to bring in a number of people from the non-financial corporations. It would in principle be desirable to do that, but I'm just not sure that it's feasible for us to try to get a very large group together like that. So we're going to try to go in several small steps, and then if it turns out to be possible to do more, I think we would be inclined to do it. I would guess that all of us share the view that one can learn a lot by interacting with a wider segment of the community if it's done well. I don't believe the National Science Foundation itself wants us to restrict the consultations just to the policy community narrowly defined. They have in mind that this is a broader community, and that we ought to try to get private sector views as well.

PROFESSOR GUTTENTAG: Frank, in the international banking portion of the project, we have already done extensive interviews with banks and bank regulators, and we intend to do more of that as our work progresses. There are whole areas, as you know, where that's the only way you can get any information.

BOB SOLOMON (The Brookings Institution): Since this is a colloquium whose results are being recorded, and I assume will be published, I would like to react a little bit to the point made earlier by Jacob Dreyer. It's another point of view on this question of bank lending to developing countries. He focused on the point that the big banks know they're so large that they will be bailed out, and the little banks, because of cross-default provisions and so on, feel safe. He concluded that there was a subsidy to banks and that this somehow accounts for an excess of lending to developing countries. I hope that is a fair representation of your point, Jacob.

I just wanted to say that, while I'm not a spokesman for banks or their stockholders, there's another view one can take of this whole process in recent years, particularly the last year or two, when the deficits of developing countries have been enormously enlarged as a result of the second oil shock, recession in the industrial world, falling commodity prices, and extremely high real estate interest rates. Ask yourself what would have happened if there had not been financing by some source, and we haven't found a large source other than commercial banks. What would have happened to the world economy if there had not been this financing of developing country deficits, most of which, in my view, have been thrust upon them? One could therefore present another view from that of Jacob Dreyer. One could say that, in some sense, the commercial banks have been providing a public good for the world economy, whether or not they have found it profitable.

WILLIAM DELLALFAR (Federal Reserve Bank of New York): It's a related question, concerning the IMF. In discussing IMF lending, are you going to look at the acceptability of and implications for the debtor countries of

the IMF conditionality proposals when these countries have alternate sources of financing? Is the IMF going to be their last source of funds, and what are the implications of having the IMF as only a last resort lender?

DR. BRYANT: We certainly do have in mind including that set of questions.

PROFESSOR KENEN: May I revert to an earlier point? In his first intervention, Max Kreinin listed a number of ways to measure equilibrium exchange rates. Any of you who have received recently a renewal notice for the Economic Journal will have noticed that the equilibrium price of the pound now implicit in the renewal rate is \$2.40, whereas the market rate right now is about \$1.75. So we have it from the Royal Economic Society that the equilibrium exchange rate is \$2.40.

DR. RAPOPORT: I think on that note it's a good time to close this session. I want to thank everybody for coming, and I especially want to thank the speakers for an excellent job. We'll be reconvening tomorrow to discuss U.S. Policies in Response to Growing International Trade Competitiveness at 9:00 a.m.

SESSION ON U.S. POLICIES IN RESPONSE TO
GROWING INTERNATIONAL TRADE COMPETITIVENESS

INTRODUCTION AND SUMMARY

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NATIONAL SCIENCE FOUNDATION

The Division of Policy Research and Analysis (PRA) of the National Science Foundation (NSF) is supporting extramural research in international economic policy based on the program solicitation "Study Programs in International Economic Policy Research" (NSF 81-11). Under Phase I of the solicitation, planning and capability demonstration grants of approximately \$75,000 each were awarded in August 1981 in two areas. Five grants were awarded on the topic of "U.S. Policies in Response to Growing International Trade Competitiveness" and four on the the topic "U.S. Options for Modifying the International Monetary System." The winning awards were selected in a competitive evaluation of 50 proposals submitted in response to the program solicitation. The nine Phase I awardees were eligible to compete for two Phase II awards (one on each topic), which would provide support over four years for integrated research programs. The Phase I final reports were received and reviewed in spring 1982 along with the Phase II proposals. For the second phase, NSF is supporting two groups--the National Bureau of Economic Research on the international trade topic and The Brookings Institution on the international monetary topic. All nine groups performed well during Phase I. A tight budget constrains what we are able to support for Phase II.

The primary objective of NSF's research program in international economic policy is to encourage an integrated program of applied research studies to assess specific policy options to assist in the deliberations of the U.S. policy community. These studies are to view policy issues in terms of a five-to ten-year time horizon. These analyses are to rely largely on available analytical techniques, models, theoretical and empirical findings, and existing data. Phase I was intended to allow the competing research groups to plan, develop, and demonstrate their capabilities to carry out the Phase II research effort. Phase I resources were to be used to draw together a team of researchers to initiate a dialogue with members of the international economic policy community, to identify major policy issues and options to be studied in Phase II, to assess what is currently known or knowable, and to determine the models and analytical approaches to be used in Phase II. During Phase II, the two groups which were selected are expected to expand their research efforts, to interact effectively with the policy community in both the performance of research and the transmission of results in a timely and useful manner, and also to occasionally provide responses to specific questions of priority concern.

I. Scope and Purpose

This colloquium is in support of the effort of the Division of Policy Research and Analysis to manage a successful research program in international economic policy. It is also in support of the Division's role to facilitate the dissemination of knowledge resulting from its extramural research program.

The major objective of the colloquium is to provide a forum for the policy and research community to learn about the findings and conclusions of the individual Phase I efforts and to evaluate the differences and similarities in the major issues and policy options identified. Another objective is to disseminate information about issues, performers, and research needs relating to international economic policy to program staff at the NSF, other government agencies, and private foundations which are interested in supporting or using research relevant to international economic policy.

To carry out these objectives for the session on "U.S. Policies in Response to Growing International Trade Competitiveness," the project directors of the five research groups supported under Phase I of NSF's international economic policy research program agreed to write papers reviewing and assessing the findings and conclusions of their Phase I efforts. During the course of that discussion, they agreed to consider, to the degree they were relevant to the Phase I results presented in their reports, papers, or proposals, the following four questions:

1. What were the four to six major long-term issues identified during the Phase I efforts?
2. What policy options for addressing various aspects of these issues were suggested by evolving conditions and past experience?
3. What was learned about the strengths and limitations of the approaches used to identify major long-term issues and options?
4. On the basis of the groups' experiences, what types of research and data improvements would be most worthwhile for enhancing our knowledge relevant to formulating policy options?

The five groups participating in Phase I on the international trade competitiveness topic and their project directors were:

The Brookings Institution, Robert Z. Lawrence
Georgetown University, Gary Clyde Hufbauer
University of Michigan, Robert M. Stern
National Bureau of Economic Research, William H. Branson and
J. David Richardson
University of Wisconsin, Robert E. Baldwin

II. Findings and Conclusions

This section presents a summary of the five papers organized around the questions listed in "Purpose and Scope." The summary consists of two parts: (1) the central conclusions suggested by the set of papers with respect to each question, and (2) quotes from the individual papers which support and extend the major points in the conclusions.

1. What were the four to six major long-term issues identified during the Phase I efforts?

As might be expected, there was considerable overlap in the major long-term policy issues identified by the individual research groups. One issue, cited by several groups, concerns the appropriate U.S. response to market distortions or "unfair" trade practices of foreign governments. These foreign distortions (such as dumping and export subsidies) affect both U.S.

imports and exports and explain the pressures to protect certain domestic industries. Another important policy issue is how to achieve the efficient adjustment of U.S. factor markets faced with foreign competition. With this issue, particular emphasis is given to labor adjustment.

The main issue in U.S. relationships with developing countries concerns the nature of our trade relations with the more successful of the developing countries. The role in trade relations of such noneconomic concerns as national defense and foreign policy needs is also an important long-term issue. Other papers highlight the problems for U.S. policy from the growing prevalence of bilateral and multilateral trade negotiations outside of the GATT. Another issue identified is what should be the U.S. response to the increasing links between exports and imports in the form of countertrade and performance requirements.

" . . . we designed a program of research organized around four major questions, each of which corresponds to one of the reasons for trade intervention.

- (1) How should U.S. policymakers respond to foreign distortions of goods, services, and investment flows?
- (2) How can policy promote the efficient adjustment of the U.S. economy?
- (3) How can U.S. policy promote the more complete integration of developing countries into the global trading system?
- (4) What forms of intervention in trade are required to meet the needs of national defense and foreign policy?"

(Lawrence and Krause, pp. II-71,72)

"A key feature of recent U.S. policymaking is a much better understanding of how different the international economic and political position of the United States is now from that of a decade or so ago and of the extent to which this position may continue to change within the next few decades. As a consequence . . . the policy community is beginning to reexamine the basic policy options that the United States has chosen in the post-World War II period with respect to trade, aid, national security, and investment issues."

(Baldwin, p. II-35)

" . . . most of the issues on which policymakers wish to reexamine the rationale for current policy approaches arise in the pursuit of five basic international economic goals of the U.S. Government. These are: (1) ensuring both that U.S. exports of goods and services are not restricted by unjustifiable (in terms of the General Agreement on Tariffs and Trade (GATT) rules and previously negotiated trade concessions) foreign trade measures or needless domestic regulations and that U.S. import-competing sectors are not injured because of unfair foreign trade practices; (2) facilitating industrial adaptation in a manner that prevents undue economic and social disruptions to workers and management in those sectors where it is clear that the United States faces a long-run deterioration in its comparative cost position while enabling the country to take full advantage of the export opportunities resulting from improvements in its international competitive position; (3) assisting developing nations to improve their living standards; (4) furthering the national security interests of the United States insofar as they are affected by international economic policies; and

(5) protecting the economic interests of U.S. investors abroad and preventing foreign investors from exerting undue economic and political power domestically."

(Baldwin, pp. II-36,37)

"Growing competitiveness in international trade and the increasing structural interdependence of the U.S. economy with the developing countries raise problems for U.S. trade and adjustment policy. . . . The problems are: (1) maintaining access of developing countries in the U.S. and OECD markets, while simultaneously (2) keeping markets open for U.S. products (and not just services) worldwide, and (3) encouraging structural adjustment in the U.S. economy."

(Branson and Richardson, p. II-57)

"Many of the trade policy issues of the 1980's will be caused less by shocks than by currents, less by single disturbances than by processes.

" . . . event-centered issues . . . have been overshadowed in recent research by issues relating to trends, recurrent divergences around the trends, and adjustment back toward the trends. Examples of such trend/divergence/adjustment-centered issues are numerous. What is the ideal trade policy in a world of repetitive ebbs and flows of international competitiveness, in which trade policy may supplement imperfect insurance markets to compensate losers? How should a resource-rich economy adjust to a discovery of new reserves that puts upward pressure on its real exchange rate, thereby squeezing profits in the traditional exportable sector?"

(Branson and Richardson, p. II-58)

"A relatively small number of major themes emerge . . . (1) protecting problem industries from imports; (2) establishing a level playing field on which U.S. exports can compete; (3) creating a more direct union between imports and exports; (4) achieving non-economic goals through trade; and (5) modifying the U.S. stance toward multilateral trading institutions and regional trading partners."

(Hufbauer and Trozzo, p. II-20)

"The specific issues identified . . . are as follows: (1) Economic, legal, and political aspects of trade policies . . . (2) Issues and alternatives in possible future multilateral negotiations . . . (3) Issues in U.S. bilateral relations with major trading partners . . . (4) U.S. sectoral issues."

(Stern, pp. II-100,101)

"The industrial countries, particularly in Europe, are on a path toward protectionism. This trend does not grow out of an intellectual belief that it is the correct policy. . . . Rather, the trend comes out of the frustration of governments in using existing instruments of policy to deal with the serious dynamic stagflation problem of their economies."

(Lawrence and Krause, p. II-72)

"If modern trade problems stem increasingly from secular trends and recurrent divergences, it is only natural that trade policy should evolve in a parallel fashion. Trade policy may be increasingly directed toward

untraditional trend and divergence targets, some of which include: maintaining desirable capital formation; increasing intersectoral labor mobility; undermining sector-specific bastions of factor-market power; appropriating the full social value of U.S. technological progress; defending U.S. producers from predatory exercises of foreign market power; minimizing resource-diverting rent-seeking; dampening unanticipated employment and sales volatility from foreign shocks; and supplementing imperfect insurance markets."
(Branson and Richardson, p. II-60)

"Trade policy in the U.S. promises increasingly to become a stalking horse for industry policy, regional policy, incomes policy, and manpower policy. Whether it should be, or whether it would be better to admit explicitly that, whatever our philosophy, we have and want some government policy toward industries and factor markets, is an important issue for the policy community to address."
(Branson and Richardson, p. II-60)

"The potential need for U.S. trade policy toward services may grow as U.S. comparative advantage shifts toward them. Services trade may call for more extensive policy commitment than commodities trade. This is due to the relative frequency with which service transactions involve externalities--benefits and costs to third parties that cannot be priced in markets."
(Branson and Richardson, p. II-63)

"Important trade issues arise from intertemporal considerations associated with real interest rates. Divergences between U.S. and foreign real interest rates can be as significant an influence on the U.S. trade balance as trade policy itself, especially in a growing economy. Trends in real interest rates can change the commodity composition of trade because their induced financial transfers alter the real exchange rate, with subsequent shifts in the margin of U.S. comparative advantage among goods. Trends in real interest rates can even change U.S. international competitiveness within sectors such as autos and capital goods, because capitalization of borrowing costs accentuates the dollar value of natural price differentials."
(Branson and Richardson, p. II-63)

2. What policy options for addressing various aspects of these issues were suggested by evolving conditions and past experience?

The papers suggest a variety of specific policy options for addressing the long-term policy issues identified. The options suggested are not necessarily advocated by the researchers but are mentioned in many instances because they have received considerable attention.

To address the issue of "unfair" practices of foreign governments, the papers identify a number of policy options. These options include: harder negotiations within the GATT, bilateral discussions with the offending country, reciprocity legislation, restrictions on foreign producers, and development of an industrial policy for dealing with import-competition problems. To deal with adjustment problems in firms facing import

competition, a popular policy option is some form of (temporary) revenue-generating protection like tariffs or surcharges that would provide funds for financing desired adjustment (e.g., retraining, retooling, or relocation). Other options mentioned are domestic loan and insurance schemes (that would provide benefits contingent on the state of competition from abroad), use of temporary migrant workers, and the elimination of domestic regulations and market imperfections that interfere with factor market adjustment.

Policy options concerning U.S. relationships with developing countries include continuing the special, more favorable treatment of developing countries in terms of tariff and nontariff barriers. For the more successful developing countries, there is the option of pressing for efforts to integrate them into the trade agreements of the industrialized countries (and thus reduce their favorable treatment).

National defense and foreign policy needs suggest the traditional policy options of export and import controls. Based on the past uses and results of these policy options, changes in their operations might be considered, such as requiring congressional authorization for imposition of controls, applying restrictions only to new contracts and not to existing ones, and broadening the principles of producer compensation that currently apply to agricultural products.

" . . . inertia, resistance from those reluctant to abandon traditional approaches, and a lack of adequate analyses of alternative options often result in a continuation of long-time policies despite the widespread feeling that new trade strategies and policies would better promote the interests of the United States."
(Baldwin, p. II-36)

"Pressing harder within the GATT for the reduction of foreign barriers to U.S. exports is but one aspect of a new U.S. policy option that involves a much tougher, less altruistic stance in trade relations. The approach used in dealing with the United States-Japan trade imbalance is another part of this option. In meeting this problem, U.S. officials have compiled a long list of specific Japanese nontariff measures that they believe are inconsistent with the trade concessions we have given Japan as well as with the GATT codes, and in a series of bilateral discussions they have urged the Japanese to eliminate them. The several bills introduced in Congress recently that would modify the unconditional most-favored-nation (MFN) principle are still another aspect of this new option. These bills open up the possibility of withdrawing trade concessions from a country that does not grant U.S. exports the same degree of market access that the country's own exports are granted in the U.S. domestic market.

"In short, the new [tougher, less altruistic] option involves, first, the vigorous pursuit through multilateral and bilateral channels of the trading benefits to which the United States believes it is entitled because of both the basic articles and codes of the GATT and previously-granted U.S. concessions to other countries and, second, a greater willingness to retaliate or withdraw concessions when these benefits are being nullified or impaired. Alternative options would be

to adopt an intermediate position between this new tough approach and the traditional, less aggressive stance or to once again seek new multilateral negotiations for the purpose of correcting what many in the policy community believe is a major imbalance in the openness of U.S. versus foreign markets."

(Baldwin, p. II-38)

"Within the last few years a significant part of the public and private trade policy community has argued that we should consider the option of dealing with our growing import-competition problem (and also our need to increase exports) in a more comprehensive, integrated manner that emphasizes cooperative efforts by management, labor, and government. This industrial policy option is already being extensively followed in Japan, Western Europe, and the developing countries. . . . Nevertheless, judging from recent experience as well as the views of some officials, it appears that this predilection [on the part of the current Administration] for free market solutions does not mean that key industries facing serious import-related adjustment problems will be ignored in their quest for special government aid. Thus, an alternative option to the industrial policy approach may be one that combines the adjustment-assistance approach of the 1970's with an emphasis on the elimination of domestic regulations and other imperfections that prevent the market from working effectively to facilitate economic adjustment."

(Baldwin, p. II-39)

"Trade policy toward the developing countries, like U.S. trade policy in general, has been strongly influenced by political considerations. . . . while some efforts were made in the Tokyo Round to secure trade concessions from the larger less developed countries (LDC's), the United States (like other advanced countries) continued the policy of not requiring reciprocal tariff cuts from the developing countries. Clauses providing 'differential and more favorable treatment' to developing countries were also included in the codes on nontariff barriers (NTB's). Still another example of the special consideration given to the developing countries is the Generalized System of Preferences (GSP) under which the United States and other industrial countries provide duty-free treatment to exports of most manufactured goods from these countries."

(Baldwin, pp. II-39,40)

" . . . it may be appropriate for the United States to ensure through import controls that domestic producers are able to maintain a sufficient market share to meet our legitimate security needs. On the other hand, there may be other, more economical, ways of meeting these needs."

(Baldwin, p. II-40)

"One approach is . . . to be prepared to withdraw trade concessions from nations that, through their investment performance requirements, diminish the value of their previously granted tariff and nontariff concessions. On the other hand, concerns about growing foreign investment in this country have prompted some U.S. officials to call for restrictions on foreigners that resemble those we object to when directed against our own investments abroad."

(Baldwin, p. II-41)

"The most simple policy guidelines for dealing with foreign protectionism are either: (1) to ignore them and follow a policy of free trade, or (2) to match them. However, serious problems are associated with the most simple guidelines. It requires a more complex strategy to counter such practices.

"Some economic theorists assert that the laissez faire approach is the correct one. Taking foreign behavior as given, U.S. trade protection hurts the United States. A unilateral reduction in U.S. protection would result in net benefits to the U.S. economy."
(Lawrence and Krause, p. II-76)

"However, there are those who argue that, particularly in the area of high technology products, because of their government subsidies or protection, foreign producers might enjoy dynamic economies of scale which allow them, eventually, to outcompete U.S. producers denied such advantages. The United States could, in theory, be better off, subsidizing its domestic producers and retaining comparative advantage in such products. The laissez faire approach also fails to take account of the political and legal difficulties associated with ignoring foreign 'unfair practices.' There are legal statutes concerning dumping and subsidies and growing political pressures on the United States to retaliate. This approach also disregards the potential for deterrence inherent in protectionism. Foreign behavior is not independent of U.S. behavior. It is the threat of possible retaliation that prevents other nations with monopoly power in trade from setting an amount of protection that maximizes their gains from trade. A firm commitment not to protect would leave the United States vulnerable to foreign optimal tariffs and unable to use reciprocal reductions in protection as a negotiating device. Finally, while foreign subsidies on exports to the United States may make Americans better off, similar subsidies on goods which compete with American products in third markets may make Americans worse off. We cannot, therefore, be indifferent to such behavior.

"The second simple solution, to match whatever subsidies foreigners provide their industries, would be impossible to administer and would simply compound the folly. . . . A variant on this solution, one advocated by the Commission of the European Community for Europe, would require all governments to harmonize all aids and restraints to domestic economic activity so that the same incentives would apply to all producers. However, this approach would undermine the right of nations to allocate resources as they deem fit."
(Lawrence and Krause, p. II-77)

"Three policy options are open to the United States in meeting the Japanese challenge in high technology products. One is to obtain the participation of American companies in Japanese national projects. A second is to obtain access to the Japanese market for exports of high technology products from the United States even during the earliest stages of development in Japan. A third would be to emulate the Japanese approach to high technology development suitably adapted to U.S. circumstances and institutions."
(Lawrence and Krause, p. II-81)

"U.S. trade policies of two different kinds may be needed in the future, one aimed at secular adjustment and the other at cyclical adjustment." (Branson and Richardson, p. II-64)

"Where protection is chosen to preserve industrial production or employment, it will impede adjustment least if it is explicitly temporary. . . . In fact revenue-generating protection (tariffs, surcharges, auctioned quotas) has the potential to provide funds for underwriting desired adjustment (e.g., retraining, retooling, and relocation, such as rewarding workers who leave designated declining industries to accept employment in other industries).

"Current trade policy can be used to mitigate unanticipated import-related shocks to specific industries. These safeguard policies are justifiable as substitutes for absent markets in which workers would insure their investment in human capital. But a less wasteful alternative to achieve this same goal might be a domestic loan and insurance scheme, providing benefits (given a worker's participation and payment of premia) that were contingent on the state of competition from abroad. . . .

"If reduced uncertainty from global flux is a goal of government trade policy, the policy should itself be predictable and consistent. A clear commitment to a stable policy regime, with clear guidelines for change, provides the appropriate incentives for investment that will become sector-specific once made. . . . Furthermore, trade policy can be more potent and less distorting if announcement effects stimulate responses even before the actual policies are enacted. . . .

"With respect to adjustment, coordination of trade policy with migration policy may have potential in some sectors for dealing with current trade problems. Temporary migrant workers seem willing to bear the employment risk in industries suffering from severe, but perhaps not permanent, bouts of import competition. They might make domestic production viable again in some declining labor-intensive industries and thereby preserve the employment and incomes of native factors of production in those industries. . . .

"The offshore assembly provision of U.S. law and judicious use of duty-free industrial zones may be similarly useful policies. Instead of moving factors across fixed boundaries, they move boundaries around fixed factors. They allow desirable production stages to be undertaken at home without raising costs on the remaining stages through trade restrictions." (Branson and Richardson, pp. II-60,61)

"[Protecting Problem Industries from Imports] Among the policy options that might be chosen, only the unleashing of unfettered free trade would appear to be ruled out. . . . Moreover, a free-trade approach does not satisfy the concern of domestic policymakers that domestic industries should be adequate for national security requirements.

"The steel industry's recent experience suggests that a reference pricing system, such as the trigger price mechanism, is simply a waystop on the road to quantitative restraints. . . .

"An attractive option that might shift policy from the path of administered protection would involve the imposition of a tariff at an initial level that would afford adequate protection to the problem industry. However, the tariff would gradually decrease over time and thereby encourage modernization or outmigration of resources. Meanwhile, the tariff revenue could be earmarked for adjustment programs to encourage both labor and capital to leave the industry."
(Hufbauer and Trozzo, p. II-23)

"[Level Playing Field for U.S. Export Competition] Domestic firms are not much interested in overall balance [of trade in current accounts]; they are concerned about their own production levels, employment, and profits. Congress and some parts of the Administration have likewise discarded their past trust in the equalizing mechanism of exchange rate changes. Harmonization of trading conditions on a micro level has increasingly become the standard of export policy."
(Hufbauer and Trozzo, p. II-24)

" . . . A replacement for the DISC might be a Foreign International Sales Corporation (FISC) that would exempt foreign source export earnings from U.S. tax and, in effect, implement a territorial tax principle.

"With respect to export credits . . . a greater role might be assigned to the Private Export Finance Corporation (PEFCO) in making direct loans. In particular, deferred DISC income under the present tax law might be given the benefit of permanent tax forgiveness if used to purchase long-term PEFCO paper.

"With respect to reciprocity provisions, an important issue is the extent to which the U.S. is willing to create private rights of action to redress unequal competitive conditions abroad. The United States has already pioneered the private-right-of-action approach with its countervailing duty and anti-dumping legislation."
(Hufbauer and Trozzo, p. II-26)

"[More Direct Linkage of Imports and Exports] Measures linking imports and exports appear to be increasing. . . . Unless broadly based multilateral agreements can be reached to discipline linkage measures, individual countries will have little choice but to seek their best advantage in bilateral or small group trading relationships.

"Unfortunately, the available policy options for modifying this trend appear rather thin. Anti-dumping and countervailing duty proceedings might be instituted against barter and counter-trade goods. . . .

"In the relative near-term, reliance may have to be made on extensive 'bilateral consultations' directed at relaxing and lifting linkage requirements. . . . In the longer term, a multilateral effort under GATT or Organization for Economic Cooperation and Development (OECD) auspices might be made to shape overall rules of the road for linked trade flows."
(Hufbauer and Trozzo, p. II-28)

"[Non-Economic Goals Through Trade Regulation] There is very little argument with the basic purpose of national security export controls. But there do remain differences of view among the allies as to the extent and breadth of the commodities that should be covered. . . .

"Since there is little chance that [export controls] will be relegated to the policy dust bin, some changes might be made in their operation. First, their implementation might be authorized by the Congress at the request of the President. . . . Second, restrictions should be applied sparingly to existing contracts. . . . Third, the restrictions should be expanded to include imports. Fourth, the principles of producer compensation currently applied to embargoes of agricultural exports might be extended to other products."
(Hufbauer and Trozzo, pp. II-29,30)

"[U.S. Stance Toward Multilateral Trading Institutions and Regional Trading Partners] Despite the growth of bilateral approaches to trading problems, the United States cannot seriously withdraw support from the multilateral institutions. It can, however, decide whether to let these institutions drift or to redirect their energies.

". . . the OECD should be streamlined. . . . The GATT should open new ground, such as international investment issues and trade in services, in addition to consolidating its achievements of the Tokyo Round. In order to infuse life into the GATT talks, the United States must be prepared to negotiate away some of its own restrictive trading practices.

". . . U.S. interest would be served by endorsing a substantial increase in the resources of the IMF and the multilateral development banks."
(Hufbauer and Trozzo, pp. II-32,33)

3. What was learned about the strengths and limitations of the approaches used to identify major long-term issues and options?

All groups used similar approaches to identify long-term issues and options; that is, they supplemented their own research and policy experience with the views of the international trade policy community. Consultations with the policy community took the form of small meetings with two or three people and larger seminars on trade-related topics. As one research group pointed out, the advantages of this approach are that it assures that the issues addressed are highly relevant to the current concerns of the policy community and it forces the research group to confront the spectrum of political and economic considerations. A weakness of the approach from that group's perspective is that the result of the interaction is more political economics than analytical economics.

"The project actively involved selected members of the international economic policy community, including present and prior Administration officials and academics, in identifying the major issues and policy options. This was done: by circulating a series of discussion papers for comment; by a series of formal luncheon discussions where the pros and cons were freely explored; and through impromptu discussions with

individuals in the community. These exchanges helped determine the range of topics that were investigated. . . .

"This approach assured that the issues addressed would be highly relevant to the current concerns of the policy community and policymakers. It forced upon the project participants the discipline of confronting the spectra of political and economic considerations that are inevitably raised by representative members of the community. . . .

"The principal weakness of the approach is that it was drawn to political economics rather than analytic economics. The extent of quantitative analysis was quite limited, and conclusions were drawn in terms of balanced prose rather than hard numbers. . . ."
(Hufbauer and Trozzo, p. II-33)

"We had substantial and continuing contacts with policy officials in the course of Phase I. Many suggestions were incorporated into the individual projects, and, more importantly, we were able through these contacts to identify and integrate the issues that guided our proposed Phase II agenda for research."
(Stern, p. II-91)

"Researchers were recruited from among the existing NBER group who would work toward production of papers for a working meeting with people drawn from the more technical side of the policy community . . . and with a broader, more policy-oriented conference . . . In addition, many informal discussions of research results were held between the principal investigators . . . and members of the policy community."
(Branson and Richardson, p. II-55)

". . . extensive series of interviews with members of the U.S. trade policymaking community . . ."
(Lawrence and Krause, p. II-71)

4. On the basis of the groups' experiences, what types of research and data improvements would be most worthwhile for enhancing our knowledge relevant to formulating policy options?

While all of the research groups held extensive consultations with members of the trade policy community to obtain their views on policy issues, options, and research needs, one of the research groups provided in its paper a list of research topics of high priority to the policy community. The policy community's suggestions are very wide ranging and are really a "wish list" when considered in terms of the possible activities of a single research group. It seems fair to say that each group's identification of worthwhile research topics tends to reflect its own research interests and its own comparative advantage.

Many of the topics suggested by the research groups involve the assessment of the effect of policy options already in use in either the United States or other countries. Other worthwhile activities require the collection of information about the current status of U.S. industries and sectors subject to foreign competition and about the prospects of foreign producers. Several

papers point out the importance of individual industries like autos and steel and the high technology sector and recommend more case studies of them. Several papers particularly stress the need for new analytic approaches. These new approaches include: changes in the traditional assumptions in economic models of trade relationships (e.g., unfixing factor endowments), use of general equilibrium approaches to analyze the effects of policies, and the application of game theory to look at strategic behavior.

"At various points in the October 1981 and March 1982 meetings, the following were suggested [by the policy community] as [priority] research topics on U.S. trade policy:

(1) Broadly focused research is lacking on the overall scope, thrust, and effectiveness of U.S. trade policy. . . .

(2) Indexes of the overall protectiveness of U.S. trade policy would be useful in forecasting trends, evaluating further intervention, and assessing international competitiveness. . . .

(3) Economic research should include evaluations of the pros and cons of the United States continuing strict adherence to most-favored-nation (MFN) treatment in the modern international economy. Such research should consider how the U.S. is affected by other nations' quantitative barriers, preferential trading agreements, and sectoral arrangements. It should assess the likely consequences of U.S. policy initiatives in specific sectors (e.g., for agricultural or high technology products), or toward specific regions (e.g., the Caribbean or Pacific Basin). And the research might sensibly include analysis of the economic value of past initiatives with sectoral or regional focus (e.g., the Canadian-American Automotive Agreement, or United States-Mexico trade arrangements).

(4) Practical research could evaluate the scope for making GATT procedures effective in agricultural trade. It could determine the possibility (if any) of liberalizing agricultural trade on a multilateral basis. It could provide an assessment of the potential for multilateral agricultural agreements to lean toward protectionism and market rigidity as in steel, shipbuilding, and 'fibers.'

(5) Deeper and more definitive evaluations would be useful for global trade policies of increasing importance: aggressive export financing, performance requirements (including mandates for local ownership, local content, and export shares), and graduated systems of preferences. Evaluations should include estimates of their effects on U.S. industrial prosperity, employment, and international competitiveness.

(6) Deeper and more definitive evaluations would be useful for U.S. trade policies of increasing importance: content protection and offshore assembly arrangements. Evaluations should include estimates of their effects on U.S. industrial prosperity, employment, and international competitiveness.

(7) Objective research on U.S. trade and national security seems needful. Many questions remain unanswered. What has been the strategic value and effectiveness of U.S. export embargoes and controls since 1948? To what extent and how fast does production substitutability in an unfriendly country undermine any U.S. attempt to differentiate strategic from nonstrategic goods? What kinds of international interdependence have historically weakened national security? What kinds have historically reduced international friction and confrontation? How does U.S. defense spending affect U.S. international competitiveness?

(8) More research effort might be devoted to the interface between flexible exchange rates and U.S. trade policy. Do flexible exchange rates make some U.S. trade policies more effective and others less effective? Do they increase the frequency and variance of unanticipated shocks to sectoral international competitiveness? Is there any reason to expect such variation to be injurious or more so in some sectors than others? Is trade policy a sensible and efficient vehicle for insuring against such injury? Or are other policies and private risk-bearing arrangements feasible and less wasteful?

(9) It may be desirable for economic research to compile an inventory of practical externalities and distortions attached to major industries. Such an inventory might provide a fundamental basis for: assessing any industry's claims to protection in the 'national interest'; evaluating what sometime seem like romantic reasons for trade policy, e.g., to promote 'high-tech' endeavors; establishing the economic cost of implementing national goals for industry composition in a second-best and inefficient way (trade policy being a likely candidate)."
(Branson and Richardson, pp. II-66,67)

"The central questions for future research center on growth of trade competition for the United States, formulation of alternative policy responses, and analysis of the cost of alternatives. This will require study of relationships among investment, technology, productivity, trade, and real exchange rates, and of domestic reactions to trade pressures. Applied research must be done to establish some of these relationships for the first time and to see the effects of specific recommended trade policies.

"Some future research will continue to be based on traditional empirical methods in economics. In addition, models of strategic behavior may be useful to analyze aspects of trade policy. Some concepts and techniques from political science seem helpful to explore the broader implications of the decline in the U.S. relative economic position since World War II."

(Branson and Richardson, p. II-68)

"Sensible research approaches to secular trends, transitory divergences, and adjustment trajectories in international trade seem unlikely unless modifications are made to several traditional simplifications.

(1) Factor endowments should be 'unfixed' to take account of both accumulation and global reallocation. (2) Closer attention should be given to the evolving structure of the market environment in which international trade takes place. (3) Efforts should be made to understand better the dynamic processes that govern intersectoral resource mobility. (4) Stochastic shocks should be incorporated as well as explicit concern for the way in which expectations are formed by private and public agents."

(Branson and Richardson, p. II-59)

" . . . issue [of when and how much to retaliate to counter foreign practices] should command more research attention than it is currently being given. Ultimately the precise nature of the strategy will require skills much closer to those of the negotiator than the economist. Appropriate models of such behavior may resemble those of game theory

more closely than those of the more conventional theoretical trade literature. However, a sound grasp of the quantitative importance of the various protectionist measures at issue will surely facilitate the negotiator's task."

(Lawrence and Krause, pp. II-77,78)

"Once it is decided to deal with these [nontariff] barriers, however, the lack of appropriate measurement presents new obstacles. Relevant data are needed to determine the significance of the removal of such barriers and to define priorities."

(Lawrence and Krause, p. II-78)

"The quantification of the impacts of the new trade distortions should be the major objective for trade policy research in the 1980's."

(Lawrence and Krause, p. II-78)

" . . . industries such as textiles, steel, and automobiles are probably the most prominent source of adjustment difficulties and the most deserving of individual case studies."

(Lawrence and Krause, p. II-79)

"Analytical approaches need to move beyond the simple accounting framework. Short-run models should deal with actual lay offs; long-run models should adopt a general equilibrium approach."

(Lawrence and Krause, p. II-79)

"Current U.S. policy aims at enhancing productivity and stimulating capital formation. But what would be the sectoral impact of an increased rate of domestic capital formation or productivity increase? What impact would a rise in capital formation have on U.S. trade patterns?"

"For answering these questions, a credible general equilibrium simulation model of the U.S. economy is required. . . . The use of general equilibrium simulation methods would force policymakers to examine the implicit trade-offs made in policies which promote or retard employment in particular sectors."

(Lawrence and Krause, p. II-80)

"The impact of protection on adjustment should be studied, and policies which explicitly tie protection to adjustment should be considered."

(Lawrence and Krause, p. II-80)

"Research is needed to evaluate the MITI process, to evaluate the consequences, and to explore the costs and benefits of . . . options for meeting the challenge."

(Lawrence and Krause, p. II-81)

" . . . two other features of the Japanese economy that merit further research: (1) the allegedly closed nature of the Japanese market, and (2) the behavior of the real value of the yen."

(Lawrence and Krause, p. II-81)

"Research is needed to explore the potentiality of LDC's as markets for and competitors of developed countries. . . . a broadly based

multicountry study of existing and potential NIC's should be undertaken. Analytically, the study could be based on a dynamic Heckscher-Ohlin model."

(Lawrence and Krause, p. II-82)

"Conventional approaches analyzing relative factor endowments and productive capabilities should therefore prove fruitful in understanding DC-LDC trade. But, the growth of intra-industry specialization as a result of comparative advantage underscores the need for considerable disaggregation at the process as well as the product level."

(Lawrence and Krause, p. II-74)

"The increasing substitutability between developed country products has important implications for explaining trade behavior and for trade policy. Case studies may prove to be more enlightening than broad econometric studies in illuminating the reasons behind particular industry behavior."

(Lawrence and Krause, p. II-75)

"In the 1980's, U.S. policymakers require an enhanced understanding of these developments [the growth of U.S. manufactured exports to developing countries] in order to facilitate the growth of exports to these markets. What is the relationship between imports from the United States, the characteristics of the importing country such as income, development strategy, investment rate, exports to the United States, etc.? How effective are U.S. export financing and promotion policies and how do they compare with those of major U.S. competitors?"

(Lawrence and Krause, pp. II-82,83)

"Since the political costs of pressing energetically for the removal of trade-distorting foreign measures are not inconsequential, it is important for policymakers to know whether the effects of ongoing shifts in the U.S. competitive structure are widespread and significant rather than being confined to a few sectors that can be adequately dealt with by means of sectoral negotiations between a few countries. . . . [research] questions are the following: How extensive and significant are the industry shifts in the U.S. international trade-competitiveness position? What have been their effects on employment and the level and distribution of income? What industries are likely to face significant export expansion opportunities in the future, and what industries are likely to decline as a result of unfavorable comparative cost shifts?"

(Baldwin, p. II-42)

" . . . the next policy-oriented question to explore is the extent to which trade-distorting measures account for the competitive problems faced by U.S. producers. . . . How important are the trade-distorting measures in other countries or the United States in accounting for the international competitive problems faced by U.S. commodity-producing and service-producing industries? What would be the trade, employment, and income gains if they were eliminated?"

(Baldwin, p. II-46)

" . . . we need to know: How effective have the export-promoting policies of the United States been, specifically, Export-Import Bank export credits and the DISC program?"

(Baldwin, p. II-48)

"More fundamental issues are whether the domestic market system is operating efficiently to move labor and capital into industries with expanding export opportunities and out of sectors that are experiencing a declining comparative-cost position. . . . Are U.S. export-oriented industries being restrained by inadequate supplies of technical and skilled personnel or capital funds? If so, to what extent and how can the situation be corrected?"

(Baldwin, p. II-48)

"The industrial adaptation problem is most frequently phrased in terms of adjusting to import competition. . . . How well have existing import-relief and adjustment-assistance programs worked in facilitating industrial adaptation? How can they be made more effective?"

(Baldwin, p. II-49)

"The following question indicates the type of information [policymakers] require in order to make better decisions [about assistance to developing countries]: What has been the effect of our GSP scheme on the exports of the developing countries and what will be the effect of such arrangements as those we have proposed for the Caribbean Basin? What has been (or will be) the effect of these measures on U.S. trade, employment, and income?"

(Baldwin, p. II-50)

" . . . central questions in [the national security] field: Are there certain sectors that should be protected for national security reasons? Are there better alternative ways of meeting our national security needs? How effective are embargoes on the export of essential consumer goods or high technology products in accomplishing their economic and political purposes?"

(Baldwin, p. II-50)

"The central question in [the investment performance requirements] area can be stated as follows: What are the effects of foreign investment performance requirements on U.S. trade, income, and employment? How can these requirements best be reduced or eliminated?"

(Baldwin, p. II-51)

"The detailed results of our pilot study suggested genuine problems in trying to develop a monitoring system that could provide the basis for evaluation of alternative policy actions. At a minimum, one needs data on domestic production, trade, prices, and employment in order to make partial equilibrium calculations of welfare effects of different actions. Further, if it was desired to analyze ex post the economic and political factors associated with particular actions, a special effort would be required to assemble the requisite information from the existing documents."

(Stern, p. II-95)

" . . . proposed agenda for research . . . included the following questions involving the criteria for and evaluation of U.S. restrictions on exports of goods and technology: (1) the extent to which U.S. exports might be restricted on 'foreign policy' rather than 'national security' grounds; (2) whether restrictions based on national security should consider not only direct military uses but also the effects on the 'industrial base,' the general 'economic potential of the U.S.S.R.,' and diversion between military and civilian uses; (3) whether export controls should focus on technologies and systems or on end products; (4) whether export controls imposed by the United States and other Western countries should distinguish among individual Eastern countries and how one can insure against diversion of goods from one restricted Eastern country to another; (5) how U.S. export licensing can be improved by establishing clearer and more stable evaluation criteria and speedier processing of applications; and (6) what commodities and amounts might be included in future U.S.-Soviet bilateral grain agreements and what assurances might the United States give concerning restrictions imposed for foreign policy reasons on sales above minimum levels."

(Stern, p. II-98)

" . . . proposed . . . to analyze the following questions: (1) will sharp changes in economic variables have a greater impact on the policy process than more gradual changes, even when the latter are ultimately larger? (2) Are opinion leaders more likely than policymakers to call attention to changes in economic variables? (3) Is policy changed more often due to elections than due to policymakers changing their views? (4) Will changes in public opinion on trade issues have a greater impact in presidential election years than in congressional election years? (5) Are protectionist pressures related to domestic economic conditions and/or to demographic characteristics of respondents?"

(Stern, p. II-99)

"Future research plans involve investigation of the implications for technology trade of the significant increases in R&D expenditures in Japan in the 1970's and analysis of a breakdown of the data on R&D personnel.

"Other important issues in United States-Japan relations that can be investigated with the rich source of microeconomic data now available include: whether Japanese imports of manufactures are low by international standards; the effects of Japanese Government-sponsored inter-firm cooperative R&D programs; the effects of government incentives to R&D and the structure of trade; United States-Japanese antitrust policies; the role of Japanese trading companies and implications for the United States; and United States-Japanese comparative advantage in financial services."

(Stern, p. II-98)

" . . . planned . . . to examine the national security and foreign policy rationales for limiting export credits, and ways in which the United States might narrow the differences between it and Western Europe and Japan concerning the terms of officially supported credits to Eastern countries, including the maximum credit share in an export contract,

interest rates, maturity, and the percentage of the borrower's local costs."

(Stern, pp. II-98,99)

"It was proposed . . . once the Michigan model had been modified to differentiate imports by country of origin and incorporate macro-micro interactions, to undertake more meaningful analysis of both changes in exchange rates and domestic macroeconomic policies."

(Stern, p. II-94)

"This project revealed that several issues and specific cases warrant further attention. Events in the steel industry will continue to raise a host of serious questions about the level of protection and the directions of adjustment. This industry could typify developments in a range of problem industries. The issues raised by local content legislation, restrictions on foreign investment, trade in services, and reciprocity provisions are becoming increasingly urgent. The questions posed by the pipeline embargo provide an occasion for overall review of foreign policy export controls. Recent experience in distressed developing countries, such as Mexico, point to new visibility for the international financial institutions and their critical role in maintaining an open world trading system."

(Hufbauer and Trozzo, p. II-34)

U.S. INTERNATIONAL ECONOMIC POLICY, 1981

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I. Introduction

International economic policy customarily reflects--sometimes faithfully, sometimes imperfectly--domestic economic policy. Only at exceptional times do international policy issues illuminate the economic landscape. 1981 was not an exceptional year.

In 1981 President Reagan charted a new and radically different course for domestic economic policy. He prescribed five basic remedies for America's economic ills: tighter money, lower taxes, less spending, fewer regulations, and less bureaucracy. Except for the last, each of these remedies had side effects in the international economic arena.

II. Major Issues and Policy Options

A relatively small number of major themes emerge from the numerous international economic policy questions that arose and trade-related actions that were taken. These themes include: (1) protecting problem industries from imports; (2) establishing a level playing field on which U.S. exports can compete; (3) creating a more direct union between imports and exports; (4) achieving non-economic goals through trade; and (5) modifying the U.S. stance toward multilateral trading institutions and regional trading partners. However, it would be pure supposition to imagine that the policy community treated the individual questions and actions in a systematic, integrated manner within an overall structure of national goals.

A. Protecting Problem Industries from Imports

The Issue. The overarching issue is: what, if anything, should be done about the inexorable drift toward administered protection for major problem industries?

Despite the Administration's espousal of deregulation, import penetration of certain sensitive markets has evoked an interventionist response. In the face of domestic and European pressures, the United States beat a hasty retreat from the greater liberalization of trade in textiles and apparel during the renegotiation of the Multifiber Arrangement. The result was a new arrangement whereby traditional overseas suppliers lost ground.

* The views expressed in this paper are the views of the authors and do not necessarily represent the views of the Institute for International Economics.

In steel, the Reagan Administration began by continuing the trigger price mechanism devised during the Carter Administration. However, when that could no longer stem the softening of prices and the increase in import market penetration, resort was made to the negotiation of administered restrictions on imports from major European suppliers. Similarly, in the wake of the abortive escape clause proceedings for the American automobile industry, the Reagan Administration negotiated quantitative restrictions on exports of Japanese cars to the American market. Despite Administration sentiment to the contrary, quotas were finally imposed on imports of sugar to prop up the price received by domestic producers. The one significant exception to this pattern was the termination of the orderly marketing agreements under which Taiwan and South Korea had limited their exports of shoes to the United States since 1978.

General Scenario. By and large, major problem industries are sensitive to business cycle conditions and exhibit swings that are somewhat exaggerated relative to those in the overall economy. Adverse cyclical conditions may be superimposed on periods of secular adversity when the problem industries should be shrinking and undergoing structural change in response to new technology or the emergence of efficient new sources of supply in the world market.

The pattern of administrative protection for these industries evokes an adage: hard times breed bad policy. In the first instance, the industry suffers hard times in the form of low output, high unemployment, and poor earnings. Hard times are likely to mirror general economic downturn, but they can also reflect basic pressures for long-term secular adjustment. Under these circumstances, resort to trade remedies can mask, but not cure, underlying difficulties. And the next wave of economic recovery may reduce the pressure to pursue necessary adjustment measures. Eventually, another round of adversity will render the initial trade law remedies insufficient to limit import penetration to the satisfaction of domestic producers. At this point, the industry may appeal to Congress for assistance, and such an appeal generally brings forth a bill that would very severely restrict the offending imports. The imminence of congressional protection with its impression of permanence is orchestrated through hearings and caucus meetings. This theater usually propels the executive branch to engage the offending exporter in a series of negotiations to reach an "accommodation" in the form of import limits, under the threat of worse alternatives and with the promise of licensing rents generated by a semi-protected market.

Results. Protection may prop up the industry temporarily, and general economic recovery may come along in time to give an impression of semi-prosperity. Usually the industry has stated that it would use the "breathing room" to undertake adjustments that will permit it "to compete with any other producer in the world." But that outcome is problematic. While better times may enlarge the internal flow of funds for necessary investment, better times also relax the economic stranglehold on inefficient and poorly located plants. In any event, it is difficult to attract large doses of outside capital to an industry that faces long-term secular problems.

To be sure, the textile industry has made major adjustments under the protection of the Multifiber Arrangement, such as large scale consolidations,

modernization, and location changes. However, even the textile industry still needs substantial tariff protection. And the apparel industry has made very little adjustment. Nevertheless, as a major source of work force entry employment, the apparel industry continues to secure a high level of protection and carries on unperturbed by the forces of the world market.

After four years of voluntary restraints on steel imports into the U.S. market and two rounds of soft price- and quantity-fixing arrangements under the trigger price mechanism, the steel industry does not give the impression that it has progressed far on its adjustment mission. In fact, some changes would appear to defy the direction of adjustment pressures. For example, wage rates in the steel industry grew much more rapidly than those for average manufacturing. In 1970 steel wages were 19 percent greater than average wages in durable manufacturing. By 1981 they were 54 percent greater. This was a period when wages in average durable manufacturing were growing at a compound rate of 8.3 percent per year.

The jury is still out on the automobile industry. Wage rate performance has rivaled that of the steel industry; the announced \$80 billion retooling program has been substantially sidetracked, at least partly as a result of the disastrous 1982 model year; and many industry experts believe that the U.S. industry really cannot be competitive in the small car market.

Prospects. The chances of reversing the tide of administered protection do not appear bright. As long as structural adjustment is postponed and recession conditions continue, the pressure to "do something" will remain virtually irresistible. Some form of special relief often seems necessary to avoid even greater damage to the international trading system. The irony of the situation is that, when general economic recovery occurs, the pressure for protection subsidies, the urgency for adjustment weakens, and the stage is set for the next round of administered protection.

Policy developments are not encouraging. Lower government spending for adjustment purposes has helped channel efforts toward administered trade solutions. For example, in the face of depressed world market conditions and the political guarantees enjoyed by domestic growers, some form of transfer payment to domestic sugar growers was impossible to avoid. Having made a commitment to cut government expenditures wherever possible, the Administration chose to have sugar consumers make disguised transfer payments to the growers in the form of higher domestic sugar prices buttressed by import quotas. Other problem industries can similarly avoid structural change, and as long as government adjustment assistance is curtailed, the political call to "do something" will focus on remedies that entail disguised payments from consumers to domestic producers.

Action-oriented policymakers abhor the invisible hand that prescribes doing nothing in the face of problems. There is a seeming need to reassert mastery over one's economic destiny and taking cartel-type measures to satisfy that need. This latent tendency in American officials is reinforced by the European and Japanese penchant for reaching "accommodations" of a private or public nature.

Policy Options. Among the policy options that might be chosen, only the unleashing of unfettered free trade would appear to be ruled out. The consequences in both the U.S. and European problem industries--textiles and apparel, steel, and automobiles--would be politically unacceptable to elected governments. Moreover, a free-trade approach does not satisfy the concern of domestic policymakers that domestic industries should be adequate for national security requirements.

The steel industry's recent experience suggests that a reference pricing system, such as the trigger price mechanism, is simply a waystop on the road to quantitative restraints. The suspension of the trigger price mechanism with the filing of the unfair trade cases by the domestic industry in February 1980 represented a shallow bow to freer trade in steel. However, the Japanese industry continued to restrain its exports of steel to the United States. Moreover, freer trade was not the intent of the Administration; it has vigorously pursued negotiations to reach a quantitative accommodation with European suppliers.

Similar policy options are being worked out for other industries. The Japanese automobile industry reached an informal arrangement to limit its exports to the U.S. market to 1.68 million units in 1981 and no more than that plus 16.5 percent of any increase in the U.S. market in subsequent years. This arrangement is similar in effect, if not legal form, to the orderly marketing agreements developed in the cases of shoes and colored television sets.

Strict quantitative limitations on imports have been developed for the textiles and apparel industries under the Multifiber Arrangement signed at the end of 1981. Under the bilateral arrangements made within the terms of the agreement, severe unilateral actions may be taken by importers to curtail the flow of imports within a relatively short time and with relatively little notice.

An attractive option that might shift policy from the path of administered protection would involve the imposition of a tariff at an initial level that would afford adequate protection to the problem industry. However, the tariff would gradually decrease over time and thereby encourage modernization or outmigration of resources. Meanwhile, the tariff revenue could be earmarked for adjustment programs to encourage both labor and capital to leave the industry.

B. Level Playing Field for U.S. Export Competition

Increasingly, participation in the world trading system is likened to a sporting event. All trading partners are supposed to be "playing by the same rules" and "let the best person win," the ultimate in good sportsmanship. Immediately after World War II, the United States was big-hearted and allowed its ravaged and less-developed trading partners some handicap, but by the 1970's all the reasons for handicapping supposedly disappeared. The United States began seeking "equal opportunity" in markets abroad.

Traditional Role of Exchange Rates. There was little drive for equity in earlier years, partly because it was widely believed that exchange rate adjustment would, in a broad sense, compensate for national policy differences both as to the appropriate level of tariffs and nontariff barriers, and as to the proper extent of export promotion. Exchange rates would ensure that current accounts remained in approximate balance, at least for major regions that had comparatively small net imports or exports of long-term capital. Thus, any U.S. disadvantage caused by foreign intervention in a particular market would be offset by sales in some other market.

This view no longer enjoys wide acceptance. Domestic firms are not much interested in overall balance; they are concerned about their own production levels, employment, and profits. Congress and some parts of the Administration have likewise discarded their past trust in the equalizing mechanism of exchange rate changes. Harmonization of trading conditions on a micro level has increasingly become the standard of export policy.

The Issue. The principal issue is to what extent should the United States pursue micro-level policies to effect "equitable" competitive conditions in world markets where U.S. producers are suppliers?

The approaches to this issue have entailed: (1) broad incentives to export production and (2) narrower solutions aimed at specific markets. The broader incentives involve the rules of international taxation and export credits. The narrower solutions have focused on achieving equitable access to specific geographic or product markets through "reciprocity."

International Tax Rules. Differences in the tax treatment of exports can confer an advantage to the export industries in one country over others. Outside the United States it is common to tax export earnings according to the principle of territoriality: export earnings attributable to foreign activity are not taxed by the home country. The United States, by contrast, taxes all export earnings, giving credit for the foreign taxes paid. As one means of creating a level playing field, the United States, in 1971, introduced the Domestic International Sales Corporation (DISC) program. The DISC enables part of the U.S. taxes on export earnings to be postponed. In an ensuing set of complaints and countercomplaints, a General Agreement on Tariffs and Trade (GATT) panel found in 1976 that the DISC is an export subsidy and therefore inconsistent with the GATT. The panel also found that the territorial tax approach may entail an export subsidy. The Reagan Administration has since argued that, under the GATT Subsidies Code, the DISC was "grand-fathered" and that, in any event, the DISC would only be inconsistent with the GATT if the effective tax rate on export earnings was lower than would result from a territorial tax approach. In November 1981, the United States and the European Community reached an agreement accepting the territorial approach and calling for arm's-length pricing between sister companies, but left open the GATT legitimacy of DISC.

The United States, unlike most other countries, taxes the earnings of U.S. citizens residing abroad. This practice has been thought to impede U.S. export opportunities because U.S. taxation discourages U.S. citizens from taking up foreign employment, especially in the construction industry. To relax that barrier, the Economic Recovery Tax Act of 1981 provided an

exclusion of foreign earned income from U.S. taxation amounting to \$75,000, with provision for further increments until the total exemption reaches \$95,000 after 1985.

Export Credits and Insurance. The Export-Import Bank (Eximbank) is the principal agency through which the United States provides official financing and guarantees for private exports. The original rationale for official support was an allegedly imperfect private capital market--a market that exaggerated the risks of foreign lending. Once other countries formed similar institutions, however, it became virtually inevitable that leap-frogging would occur. Export credit institutions supported by public revenues can charge rates lower than commercial rates, or even lower than government borrowing rates. Consequently, the Eximbank became the source of another of its own rationales: matching competitive financing. In response to the rapid escalation of export credit subsidization in the 1960's and 1970's, the United States reached a series of agreements with other major exporting countries to collectively raise export financing rates. The Reagan Administration has vigorously pursued this same approach. With strong U.S. impetus in the negotiations, a 12 percent rate was agreed upon for sales of large aircraft and for bidding on Mexican nuclear power plants (projects that were later postponed). In other cases, export credit rates are to be at least 11 percent by all suppliers, except for Japan where lower yen interest rates were argued to justify a 9.25 percent floor.

Reciprocity. Efforts to harmonize international tax rules and export credit rules have not succeeded in achieving the U.S. dream of a level playing field. In a number of trade dimensions, foreign bureaucratic ingenuity has devised new maneuvers that appear to confer an advantage on foreign exporters or to deny U.S. access to foreign markets.

Frustrated by these developments, the U.S. Congress has attempted to devise measures whereby the United States would not only promulgate the rules by which it will trade but also would place itself in the role of referee. These measures are manifest in the proposed "reciprocity" legislation.

This legislation, if enacted in a "strong" form, would push major U.S. trading partners beyond their traditional commitment to extend most-favored-nation (MFN) treatment to the United States, and instead require them to extend roughly equivalent trading terms as the United States offers. Proponents of reciprocity do not intend the principle to be applied on a product-by-product, concession-by-concession basis; rather, the United States would obtain access roughly equivalent in overall terms--to be defined by the process of case-by-case adjudication. Complaints would be handled through the Section 301 process: the U.S. Trade Representative, with advice from an interagency group, would determine if reciprocity is denied and would recommend retaliatory steps that could be prescribed by the President.

Prospects. The playing field will not soon be leveled; accordingly, the issue of harmonized trading rules promises to remain active for some years to come. Declining U.S. interest rates might realign exchange rates in a way more favorable to U.S. exports, but even a sharp drop in the dollar would not restore confidence in flexible exchange rates as the principal

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equilibrating mechanism. Instead, there will be strong sentiment to devise administrative rules that harmonize conditions under which U.S. producers compete with their foreign counterparts.

But there are offsetting policy pulls and pushes. The Administration is desperately trying to cut projected deficits in the Federal budget; hence, the additional tax revenues that would result from scaling back DISC are a tempting target, and one that was in fact hit in the Tax Equity and Fiscal Responsibility Act of 1982. Moreover, the United States continues to push ardently in the GATT for discipline over export subsidies. The United States would have an easier time asserting leadership in this battle if it were seen to be reducing the scope of DISC.

The Export-Import Bank is also caught in the budget crunch. Eximbank is supposed to operate on a self-sufficient basis, able to match earnings with outlays. But high Treasury borrowing rates have driven its interest costs above its interest revenues on recent credits. Moreover, the Reagan Administration has attempted to reduce new outlays under both the direct lending program and the guarantee program. Since 1981, Eximbank has had to score its guarantees at 100 percent of the face amount of loans, as opposed to 25 percent previously. This change increases the budget profile on the Eximbank and makes it a more attractive target for future cuts. Thus, across a broad budget front, the Eximbank is under pressure to reduce its relative size.

An attraction of the reciprocity approach is that it does not require budget outlays or tax concessions by the Federal Government. In 1983, the prospects for passage are better than even. Originally, the legislation was opposed by the Reagan Administration, but with amendments that softened its strident tone, the Administration has now become an advocate.

Policy Options. The DISC will probably not pass from the scene before a replacement for it is devised that satisfies the export community. A replacement for the DISC might be a Foreign International Sales Corporation (FISC) that would exempt foreign source export earnings from U.S. tax and, in effect, implement a territorial tax principle.

With respect to export credits, the Reagan Administration's expenditure policies almost dictate that the Eximbank will not be enlarged to meet the demands of U.S. exporters. Thus, a greater role might be assigned to the Private Export Finance Corporation (PEFCO) in making direct loans. In particular, deferred DISC income under the present tax law might be given the benefit of permanent tax forgiveness if used to purchase long-term PEFCO paper.

With respect to reciprocity provisions, an important issue is the extent to which the United States is willing to create private rights of action to redress unequal competitive conditions abroad. The United States has already pioneered the private right-of-action approach with its countervailing duty and anti-dumping legislation. Will it push the frontier further in the search for a level playing field? Additional steps in this direction may require retaliatory measures in lines of commerce completely unrelated to

the original injury. Further, if the United States enlarges the chest of private rights of action, it can expect other countries to follow suit. The U.S. Government and individual states must consider their own response to foreign complaints that U.S. industry is, in some circumstances, given the high ground for competing in domestic and foreign export markets.

C. More Direct Linkage of Imports and Exports

The world trading system now suffers from: (1) lessened confidence in the multi-participant, multi-beneficiary model of an open trading system; (2) eroded trust in the balancing role of flexible exchange rates; and (3) frustrations with trying to establish a level playing field for trade competition. Consequently, "innovation" in the trade policy field has turned to devising more direct linkages between imports and exports.

Instruments of Linkage. Several means have been developed to achieve more direct linkages between imports and exports. One class of measures comes under the label of counter-trade. This includes barter (a one-to-one import-export linkage), counterpurchases (more general agreements on levels of purchases by the trading partners), and buy-backs (agreements to take payment for investment in facilities by deliveries of the commodities produced in the facilities).

Of a less commercial nature are the agreements reached among allies on military weapon offset purchases or coproduction arrangements. Offsets involve agreements as to which ally will specialize in the production of which weapon system and the purchases that each ally roughly makes from others. Coproduction involves dividing the production of a given weapon system among the allies, either in terms of subsystem or assembly specialization or the manufacture of limited numbers of the complete weapon system.

Countries have also begun to impose performance requirements on foreign investment within their borders. These requirements may determine: (1) the size of the enterprise; (2) the extent of foreign ownership participation; (3) the industrial or regional sector in which the investment may be made; (4) local labor or material content in the final product; (5) the minimum quantities the enterprise must export; (6) the level of R&D expenditures; and (7) the maximum profits that may be repatriated at any one time. The performance requirement is usually sweetened by host government provisions for additional investment incentives in the form of tax or operating concessions.

The reciprocity doctrine can also be seen as an attempt to tie imports to exports through the conditions applied to the commercial transactions in each country.

The Issue. Obviously, the parties entering into linkage arrangements must perceive that they are better off having the arrangement than not having it. However, it is another matter whether an arrangement harms potential third party competitors and whether the circumstances leading to linkage arrangements might be better dealt with by other means.

It is difficult to be sanguine about the effects of counter-trade, military offsets, and performance requirements. These measures constrain user choices, the production processes that might be used, and the marketing strategies that producers may follow. Carried to their logical extreme, these measures could bilateralize the trading system. Moreover, military offset and joint production provisions are commonly believed to limit economies of scale and specialization. Military offset arrangements have been justified as economic mortar for the Western alliance: everyone shares in the pork-barrel of military production. They are also supposed to facilitate standardization among the allied forces. Whatever the rationale, the result is a substantial erosion of commercial efficiency in the realm of military production.

Policy Options. Measures linking imports and exports appear to be increasing. Adverse world economic conditions, dissatisfaction with the slope of the playing field, developing country impatience with the pace of industrialization, and mistrust of exchange rate movements as an equilibrium mechanism will increase the pressure for further linkage. Unless broadly based multilateral agreements can be reached to discipline linkage measures, individual countries will have little choice but to seek their best advantage in bilateral or small group trading relationships.

Unfortunately, the available policy options for modifying this trend appear rather thin. Anti-dumping and countervailing duty proceedings might be instituted against barter and counter-trade goods. However, the arrangements are often cloaked in secrecy, and potentially affected third parties simply do not know that business has been lost. Moreover, some of the losers are third country suppliers who do not have standing, under present law, to bring a case. Likewise, the available countermeasures for restraining performance requirements are limited by problems of evidence and the fact that the corporate beneficiaries are not likely to complain.

In the relative near-term, reliance may have to be made on extensive "bilateral consultations" directed at relaxing and lifting linkage requirements. However, results are not likely to emerge unless and until private rights of action are broadened to effectively address linked trade. In the longer term, a multilateral effort under GATT or Organization for Economic Cooperation and Development (OECD) auspices might be made to shape overall rules of the road for linked trade flows.

D. Non-Economic Goals Through Trade Regulation

From time to time, countries or groups of countries attempt to modify trading partner behavior in some non-trade sphere such as human rights, national security matters, or political support for a third country. The oil embargo by the Persian Gulf suppliers in 1973 was one such attempt. In the Carter Administration, above-agreement grain sales to the Soviet Union were partly suspended following the Soviet invasion of Afghanistan. Likewise, the Reagan Administration placed an embargo on exports of certain gas pipeline technology to the U.S.S.R when martial law was imposed in Poland.

Export Controls. The principal means employed by the United States to affect the political behavior of other countries are export controls. Under the Export Administration Act there are broadly two types of export controls: those to enhance national security and those to achieve foreign policy objectives.

National security export controls are used to deny potential adversaries advanced technologies and goods that would strengthen their weapon systems. The Department of Commerce maintains a Commodity Control List (CCL) with authority to license all exports of such items. An international effort at controlling trade in critical technology is carried out through the Coordinating Committee for Multilateral Export Control (COCOM). The lists of items in these two arrangements do not completely overlap, largely because U.S. allies take a much narrower view of the items that pose a clear and present danger to the security of the West.

Foreign policy export controls are largely used as an executive measure to express displeasure with another country's policies.

The Issue. The most critical questions posed by export controls and related economic sanctions are whether such controls are effective, whether other measures might be taken with equal or greater effectiveness, and whether a coherent approach can be developed that preserves credibility with both our allies and our adversaries.

Reagan Administration Approach. Consistent with its general economic prescription to deregulate economic activity, the Reagan Administration began by easing certain export controls such as those on nuclear materials and on sophisticated materials going to the People's Republic of China. The Administration kept its campaign promise to lift the grain embargo imposed on the Soviet Union. It also relaxed the notification requirements imposed on exporters of hazardous materials.

However, when martial law was announced in Poland, the Administration stepped up its attempts to exert stronger economic pressure with the express objective of reversing Soviet and Polish actions. A new grain embargo would have entailed high budget costs in the form of additional farm loans triggered by the Farm Act of 1981. Instead, therefore, the Administration imposed restraints on exports of high technology and oil and gas development and transmission equipment. These measures were escalated to apply retroactively on transmission equipment supplied not only by U.S. firms but also by their overseas affiliates and licensees.

Prospects. Economic considerations appear to be of little importance in this matter for either the United States or the U.S.S.R. Despite the lack of support from U.S. allies and the singular lack of results in changing Soviet or Polish behavior, the Administration seems locked into a ritualistic effort at painting itself into a corner.

Policy Options. There is very little argument with the basic purpose of national security export controls. But there do remain differences of

view among the allies as to the extent and breadth of the commodities that should be covered, especially when the United States seeks to find security implications in oil drilling supplies and pipeline turbines.

Since there is little chance that these measures will be relegated to the policy dust bin, some changes might be made in their operation. First, their implementation might be authorized by the Congress at the request of the President. This would add another and perhaps useful step in the escalating battle to modify the target country's behavior. It would also ensure that the U.S. public endorsed the measure. Second, restrictions should be applied sparingly to existing contracts, since retroactive application casts substantial doubt on the reliability of the United States as a supplier. Third, the restrictions should be expanded to include imports. Fourth, the principles of producer compensation currently applied to embargoes of agricultural exports might be extended to other products.

E. U.S. Stance Toward Multilateral Trading Institutions and Regional Trading Partners

The Turn Toward Bilateral Solutions. As advocate-architect of the MFN approach to international commercial policy at the close of the Second World War, the United States urged that economic efficiency and political harmony would be best served if each nation extended the same commercial terms to every other nation. Multilateralism, erected on an MFN platform, was heralded as the bold new approach to commercial relations.

But multilateralism cannot survive on lofty rhetoric alone. Concessions granted on an MFN basis cannot carry too many "free riders" and disciplines cannot carry too many "unwilling travelers." Even when "free riders" and "unwilling travelers" are few, multilateralism seems to work best when the constraints to economic growth are on the supply side--in the old fashioned sense of high rates of capacity utilization and low rates of unemployment.

The emergence of free trade areas and common markets beginning in the 1960's typified a new phase, with commercial relations evolving along bilateral or confined multilateral lines. Even the United States began to develop solutions of this character for problem industrial sectors--hence, the Short-Term Cotton Agreement with Japan (1961), the Automobile Pact with Canada (1964), and the voluntary restraint agreements on steel with Japan and the European Economic Community (1968). However, the United States continues its rhetorical support of an open multilateral trading system and hesitates to acknowledge that its international economic policies have increasingly emphasized bilateral solutions.

The Multilateral Institutions. The Economic Summit originated as a response to the early successes of Organization of Petroleum Exporting Countries (OPEC), and now provides the heads of state of the "Big Seven," plus the European Economic Community (EEC), a forum to resolve major international issues. It poses an opportunity for the relatively quick resolution of high visibility problems. But decisions must be made on the basis of consensus. If consensus cannot be achieved, the summit communique is often reduced to vacuous statements on nonissues. Difficulty in reaching

consensus on major issues has been evident in the last several Economic Summit meetings.

The OECD and the GATT are at critical crossroads. While the OECD has made significant contributions to policy formulation, it has recently been mired down by its own bureaucratic weight. The Summit and high-level ad hoc meetings have increasingly encroached upon the OECD turf and much of its analytic work is duplicated, possibly with better effect, by the International Monetary Fund (IMF), the World Bank, and the Bank for International Settlements. The need to achieve consensus in the OECD committee system has reduced many of its pronouncements to banalities.

The GATT has provided a forum for negotiating massive tariff reductions and for fashioning detailed codes covering nontariff trading practices. Its accomplishments have been without parallel in the world trading system. But fatigue has now set in, partly as a result of the energy expended in the Tokyo Round. Many GATT members would welcome a period of consolidation devoted to technical improvements in the trading system, and ignore the unhappy reality that basic features of the system are subject to severe erosion.

The international financial institutions (IFI's) also face an important juncture. During the 1970's, official flows grew substantially and the United States regarded the IFI's as a mainstay in recycling funds, especially following the precipitous oil price hikes in 1973 and 1979. But by the end of the Carter Administration, substantial congressional hostility had developed toward the multilateral development banks. The Reagan Administration seized upon this sentiment to push for a redirection of capital flows through private markets and lesser budget support for the IFI's. Meanwhile, the problems of debt-ridden countries have grown more severe and the ability of the private banking system to manage the international financial system has increasingly come under question.

Major Trading Partners. The drift of U.S. policy toward bilateralism is evident in its dealings with major trading partners. Under a thin veneer of multilateralism, the United States has often devised bilateral solutions for problem industries. For example, when European Community steel producers appeared to be the main source of import pressure on the domestic steel industry, the United States initiated negotiations with the Community. Likewise, the United States asked Japan to limit its exports of automobiles. And Japan remains the primary target of the "reciprocity" movement. Since the United States runs a substantial bilateral trade deficit with Japan, many Congressmen take the position that the Japanese should unilaterally encourage U.S. imports.

The commercial relationship of the United States, Mexico, and Canada is clouded by numerous small irritations stemming from trading practices such as restricted movement of U.S. truckers, tax deductions on radio advertising, limits on exports of oil and gas to the United States, and pervasive performance requirements. However, sheer proximity has pushed the United States into an increasingly accommodating mode vis-a-vis Canada and Mexico. President Reagan originally had high hopes for a North American

accord. The realities of nationalism in Mexico and Canada and entrenched opposition to further liberalization in the United States have frustrated those hopes. However, in individual cases, the United States has displayed considerable solicitude for its neighbors, and vice versa.

The United States continues its missionary attempts to persuade developing countries to participate fully in the GATT, the IMF, and the IFI's, even though the United States itself is somewhat less enchanted by these organizations. Meanwhile, in its dealings with the primary commodity countries, the Administration has declined to join the Sixth Tin Agreement, and, at Cancun, the United States directed attention away from the United Nations Conference on Trade and Development (UNCTAD) objectives to negotiate commodity agreements and a common fund. The United States also announced its intention not to sign the Law of the Sea Treaty and has instead favored mutual recognition of seabed mining rights on a first-come basis.

For those countries dependent upon official aid for a substantial portion of their foreign exchange requirements, the Administration has rediscovered the "trade-not-aid" theme and has emphasized private capital flows.

Prospects. Multilateral approaches to the world trading system have in the past worked best when the world economy was characterized by low rates of unemployment and high rates of capacity utilization. With prospects for a slow world economic recovery, the attentions of individual governments are now riveted on gaining preferential access to outside markets and on limiting the penetration of aggressive foreign suppliers in their own markets.

The multilateral institutions are perceived to have only limited success in dealing with controversial issues such as subsidized exports, problem industries, performance requirements, and commodity agreements. Consequently, greater emphasis can be expected to be placed on unilateral, bilateral, and restricted multilateral approaches.

Policy Options. Despite the growth of bilateral approaches to trading problems, the United States cannot seriously withdraw support from the multilateral institutions. It can, however, decide whether to let these institutions drift or to redirect their energies.

For example, the OECD can perhaps best serve as an anteroom where members reach accommodation on major issues before the matters are negotiated in larger fora. However, the OECD should be streamlined. This could be done by directing its attention to fewer issues and by reducing the sprawl of its committee system and bureaucracy. It also would benefit by limiting participation in some committees to those countries with a material interest in the subject.

The GATT needs a rekindled spirit of urgency. Much will depend upon the GATT Ministerial meetings in November 1982. The GATT should open new ground, such as international investment issues and trade in services, in addition to consolidating its achievements of the Tokyo Round. In order to infuse life into the GATT talks, the United States must be prepared to negotiate away some of its own restrictive trading practices.

While the recycling functions performed by the international financial institutions are becoming less urgent, their role as bankers and financiers of last resort has become more critical. U.S. interest would be served by endorsing a substantial increase in the resources of the IMF and the multilateral development banks.

U.S. relations with certain major trading partners have developed a tone of restrained acrimony. The United States might reconsider its confrontational stance across a wide range of trade issues--the pipeline equipment embargo, reciprocal truckers' operating rights, steel, and automobiles. An attitude of accommodation on some fronts might achieve better results and would improve the political tone of the alliance.

III. Assessment of Research Approach

A. The Approach

The project actively involved selected members of the international economic policy community, including present and prior Administration officials and academics, in identifying the major issues and policy options. This was done: by circulating a series of discussion papers for comment; by a series of formal luncheon discussions where the pros and cons were freely explored; and through impromptu discussions with individuals in the community. These exchanges helped determine the range of topics that were investigated.

B. Strengths

This approach assured that the issues addressed would be highly relevant to the current concerns of the policy community and policymakers. It forced upon the project participants the discipline of confronting the spectra of political and economic considerations that are inevitably raised by representative members of the community.

C. Weaknesses

The principal weakness of the approach is that it was drawn to political economics rather than analytic economics. The extent of quantitative analysis was quite limited, and conclusions were drawn in terms of balanced prose rather than hard numbers.

IV. Worthwhile Research

A. Premise

The project was established on the premise that international economic policy evolves by way of individual, frequently unconnected, events. Therefore, to gain insights into the process, it would be necessary to investigate specific, concrete cases.

The experience of the project supports the basic premise. Overarching themes are obscure at best; a great deal of policy lore builds up around

individual issues. Moreover, the case approach seems to produce results readily digestible by the policy community.

B. Studies

This project revealed that several issues and specific cases warrant further attention. Events in the steel industry will continue to raise a host of serious questions about the level of protection and the directions of adjustment. This industry could typify developments in a range of problem industries. The issues raised by local content legislation, restrictions on foreign investment, trade in services, and reciprocity provisions are becoming increasingly urgent. The questions posed by the pipeline embargo provide an occasion for overall review of foreign policy export controls. Recent experience in distressed developing countries, such as Mexico, point to new visibility for the international financial institutions and their critical role in maintaining an open world trading system.

U.S. POLICIES IN RESPONSE TO GROWING INTERNATIONAL TRADE
COMPETITIVENESS: FINDINGS AND CONCLUSIONS OF THE WISCONSIN GROUP*

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I. Major Policy Issues and Options

A. A Rethinking of Policy Options

The role of the U.S. Government in international economic relations is, like that of any modern government, to promote the economic, political, and national security interests of its citizens. Major international economic issues where these interests arise involve trade with other nations in goods and services, investment and transfers of technology by U.S. citizens abroad and by foreigners in this country, government programs to assist other nations economically, the pursuit of national security goals, and institution-building efforts aimed at promoting harmonious economic relations. The particular forms in which these broad issues will confront the government over the next five to ten years are determined by both the present economic and political position of the United States within the community of nations and ongoing and likely new international economic and political trends.

A key feature of recent U.S. policymaking is a much better understanding of how different the international economic and political position of the United States is now from that of a decade or so ago and of the extent to which this position may continue to change within the next few decades. As a consequence of this keener appreciation of current international economic realities, the policy community is beginning to reexamine the basic policy options that the United States has chosen in the post-World War II period with respect to trade, aid, national security, and investment issues. While this rethinking has been centered thus far on particular issues that have forced themselves on the attention of policymakers, discussions with public officials and those in the private sector concerned with international economic policy have made it clear that a more general reevaluation of U.S. approaches and options in the international economic field is underway.

B. The Changing U.S. Position in the World Economy

As is now well understood, some of the changes in the international economic position of the United States over the last 20 years reflect a correction of abnormal world production and trade conditions caused by World War II, while others stem from a basic shift in the U.S. comparative cost position relative to the rest of the world economy. For example, the U.S. share of total exports of manufactures of the industrial countries fell from 22 percent in 1960 (it had been 35 percent in 1950) to 18.4 percent in 1970 and then to 15.5 percent in 1979. But since foreign exchange rate convertibility was restored only in the late 1950's and quantitative restrictions were still being extensively used against Japanese exports, the 1960 figure continued to reflect to some extent the unusual market share gained by the United States as a result of the wartime disruptions in most other industrial

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countries. It was probably not until the middle 1960's that the market share readjustments to these circumstances were complete. However, the continued (though less rapid) decline in the Nation's world market position during the 1970's indicates that the change in the free-world economy, from a situation in which there was one economic superpower together with a number of smaller industrial nations to a condition in which there are three major industrial powers (the United States, the European Community, and Japan) and an expanded number of smaller industrial nations, is not simply the result of a return to pre-World War II relationships. The decline also means--particularly when note is taken both of the rapid rise in the world market share of manufactured goods by the newly industrializing countries and of the active role of other governments in developing and developed countries in promoting industrial production--that the United States faces the likelihood of a continued relative decline in its international competitive position.

These changed economic conditions have, of course, also brought about shifts in the political power structure of the Western world. The United States no longer has the resource base to undertake singlehandedly major international economic initiatives nor the leadership position necessary for gaining the unquestioned economic support of other countries in such undertakings. This inability to determine unilaterally the general nature of the Western world's international economic policies has become especially evident in situations where the United States wished to employ trade or investment policy to exert political pressure on countries that oppose its traditional political and economic goals.

As policymakers have come to appreciate the nature of the growing economic competition faced by the United States from international trade as well as in other international economic areas, they have become increasingly concerned about whether the policy approaches adopted when the United States occupied a hegemonic position in the Western world are still appropriate for the international economic issues they must face in the 1980's. They observe that inertia, resistance from those reluctant to abandon traditional approaches, and a lack of adequate analyses of alternative options often result in a continuation of long-time policies despite the widespread feeling that new trade strategies and policies would better promote the interests in the United States.

C. Major Economic Goals and Policy Options

Discussions with government officials and those in the private sector concerned with international economic policy suggest that most of the issues on which policymakers wish to reexamine the rationale for current policy approaches arise in the pursuit of five basic international economic goals of the U.S. Government. These are: (1) ensuring both that U.S. exports of goods and services are not restricted by unjustifiable (in terms of the General Agreement on Tariffs and Trade (GATT) rules and previously negotiated trade concessions) foreign trade measures or needless domestic regulations and that U.S. import-competing sectors are not injured because of unfair foreign trade practices; (2) facilitating industrial adaptation in a manner that prevents undue economic and social disruptions to workers and management in those sectors where it is clear that the United States faces a long-run

deterioration in its comparative cost position while enabling the country to take full advantage of the export opportunities resulting from improvements in its international competitive position; (3) assisting developing nations to improve their living standards; (4) furthering the national security interests of the United States insofar as they are affected by international economic policies; and (5) protecting the economic interests of U.S. investors abroad and preventing foreign investors from exerting undue economic and political power domestically.

In this section the nature of the policy options traditionally followed in pursuing each goal is briefly discussed together with some of the alternative options being considered by the policy community.

Trade. During the 1940's and 1950's (and to some extent in the 1960's), U.S. trade policy was strongly influenced by international political considerations. There was a general acceptance of the view that it was essential to rebuild the economic strength of Western Europe and Japan and to accelerate growth rates in the less-developed world as a means of preventing the spread of communism and promoting political stability within the free world.

Policymakers also pointed to the economic benefits of this policy to the United States in terms of market outlets for U.S. exports and sources of key import needs. Except for a comparatively small list of industries, e.g., watches, bicycles, lead, and zinc, they were not too concerned either about possible short-run adverse domestic effects of trade liberalization nor long-run competitive challenges from other industrial nations. Consequently, the United States was very generous toward other countries in its commercial policy dealings. For example, significant cuts were made in U.S. import duties in return for cuts by others in their duties that were not meaningful at the time in trade terms because of the extensive foreign exchange controls of other countries. Moreover, we interpreted the reciprocity requirement for trade negotiations loosely, using, for example, a simple trade volume measure (thus ignoring the height of the duty being reduced) and accepting bindings of duties at existing low levels as evidence of reciprocity.

As the extent of the competitive challenge became increasingly evident in the late 1960's and early 1970's and the threat of the spread of communism declined, U.S. trade negotiators began in the 1970's to adopt a tougher, more economically oriented stance in their dealing with other countries. One aspect of this was the realization that, given the extensive economic intervention by governments in most other countries and the less open political systems in these nations, nontariff trade measures were being used as a major means of restricting U.S. exports. Consequently, a U.S.-led effort was undertaken to reduce these distortions by negotiating a series of new GATT codes.

Whether the codes will in fact achieve the balance in nontariff measures that the United States seeks is still in doubt. It was clear in the Tokyo Round that some of our major competitors regarded the codes as agreements under which they would be able to continue most of their existing nontariff trade policies. And, until quite recently, the United States did

not seem prepared to pursue in a vigorous manner the dispute-settlement mechanisms established in the codes in order to attain its goals.

Pressing harder within the GATT for the reduction of foreign barriers to U.S. exports is but one aspect of a new U.S. policy option that involves a much tougher, less altruistic stance in trade relations. The approach used in dealing with the United States-Japan trade imbalance is another part of this option. In meeting this problem, U.S. officials have compiled a long list of specific Japanese nontariff measures that they believe are inconsistent with the trade concessions we have given Japan as well as with the GATT codes, and in a series of bilateral discussions they have urged the Japanese to eliminate them. The several bills introduced in Congress recently that would modify the unconditional most-favored-nation (MFN) principle are still another aspect of this new option. These bills open up the possibility of withdrawing trade concessions from a country that does not grant U.S. exports the same degree of market access that the country's own exports are granted in the U.S. domestic market.

In short, the new option involves, first, the vigorous pursuit through multilateral and bilateral channels of the trading benefits to which the United States believes it is entitled because of both the basic articles and codes of the GATT and previously granted U.S. concessions to other countries and, second, a greater willingness to retaliate or withdraw concessions when these benefits are being nullified or impaired. Alternative options would be to adopt an intermediate position between this new tough approach and the traditional, less aggressive stance or to once again seek new multilateral negotiations for the purpose of correcting what many in the policy community believe is a major imbalance in the openness of U.S. versus foreign markets.

In addition to an imbalance in market accessibility, many officials are also concerned about the difference between the United States and most other countries in the degree to which the government actively promotes export-oriented production, especially in high technology lines where the United States currently enjoys a strong comparative advantage. Traditional U.S. policy has left production decisions in such industries largely in the hands of private entrepreneurs. Of course, large governmental outlays for defense purposes have indirectly had a subsidizing effect on some research and development activities, but this is quite different than government policies providing low-cost financing, tax credits, or lucrative purchasing contracts for the express purpose of fostering high technology production in the private sector. Yet another alleged practice of some foreign governments is export promotion by means of the deliberate undervaluation of a country's currency.

The obvious concern is that U.S. high technology exports, which in view of the growing competition from both new and old industrial countries in standardized products must be the basis for the future growth of U.S. exports of manufactured goods and services, will face increasing foreign import barriers and production subsidies. Besides dealing with this issue through the tough-minded option just outlined, some members of the policy community are urging the United States to adopt the same types of policies

that many other industrial countries employ to assist private producers in key export sectors.

The likelihood that East-West trade, specifically with China, will increase in the next decade raises important issues that relate to U.S. trade competitiveness. How, for example, are we going to respond to the flood of low-priced, labor-intensive goods that may be exported from China? Present U.S. law (as well as GATT rules) is not likely to deal adequately with these market-disrupting imports. Several officials in the policy community are urging a reevaluation of our policies toward nonmarket economies.

Industrial Adaptation. While the U.S. Government has long shown a much greater concern for easing the domestic adjustments associated with increased import competition than for increasing exports, the direct government role in adjustment is still modest. The adjustment process has, by and large, been determined by the operation of the free market mechanism. In the 1940's and 1950's, the only deviation from this approach was to permit temporary increases in the degree of protection against increased imports that resulted from previously granted concessions and that caused serious injury. A direct adjustment assistance program for workers (and also firms) faced with injurious imports was introduced in 1962 and liberalized in 1974. However, funds for this program have been sharply reduced in the last few years. In the 1970's the President also played a more active role in negotiating selective agreements restraining foreign exports that were causing or threatening to cause serious domestic injury and in arranging financial aid to certain industries and companies injured by imports. Nevertheless, these efforts have not been part of any overall new policy approach and are modest when compared to what many other governments have done for their injured industries.

Within the last few years a significant part of the public and private trade policy community has argued that we should consider the option of dealing with our growing import-competition problem (and also our need to increase exports) in a more comprehensive, integrated manner that emphasizes cooperative efforts by management, labor, and government. This industrial policy option is already being extensively followed in Japan, Western Europe, and the developing countries. However, the current Administration appears considerably less enthusiastic toward this approach than the last. There is a strong belief in the efficacy of the market (when compared to actual government intervention efforts rather than some abstract ideal) in bringing about satisfactory economic adjustments. Nevertheless, judging from recent experience as well as the views of some officials, it appears that this predilection for free market solutions does not mean that key industries facing serious import-related adjustment problems will be ignored in their quest for special government aid. Thus, an alternative option to the industrial policy approach may be one that combines the adjustment-assistance approach of the 1970's with an emphasis on the elimination of domestic regulations and other imperfections that prevent the market from working effectively to facilitate economic adjustment.

Assisting the Developing Countries. Trade policy toward the developing countries, like U.S. trade policy in general, has been strongly influenced by political considerations. As President Reagan's Caribbean Basin Initiative

indicates, political factors still play a major part in shaping U.S. economic policies toward the developing countries. Furthermore, while some efforts were made in the Tokyo Round to secure trade concessions from the larger less-developed countries (LDC's), the United States (like other advanced countries) continued the policy of not requiring reciprocal tariff cuts from the developing countries. Clauses providing "differential and more favorable treatment" to developing countries were also included in the codes on nontariff barriers (NTB's). Still another example of the special consideration given to the developing countries is the Generalized System of Preferences (GSP) under which the United States and other industrial countries provide duty-free treatment to exports of most manufactured goods from these countries.

The reasons why the advanced countries have not insisted upon reciprocity or the adherence to GATT rules on the part of the LDC's are, of course, a desire on equity grounds to hasten the closing of the significant income gap between the two groups of countries coupled with a general belief that faster growth within the LDC's promotes international political stability. However, an increasing number of U.S. policy officials have in recent years sought to qualify this reasoning to some extent. As they have observed the rapid growth of U.S. imports of manufactured goods from these countries over the last decade, U.S. officials have come to question whether the nation can afford to give the LDC's a free ride in trade matters. They contend that as a minimum we must "graduate" the more successful newly industrializing nations so that they face the same U.S. tariff structure as other developed countries. Moreover, they argue, the United States should begin to insist upon a greater degree of reciprocity in trading relations with these countries. Like the others already discussed, this option places greater emphasis on the economic interests of the United States.

National Security. Recent national security issues faced by policy officials have also led to suggestions for new approaches and options. In the high technology field, for example, not only is the United States faced with the prospect of declining export markets due to foreign subsidies but also, in some lines, with declining domestic production as import competition increases. Just as foreign governments subsidize the production of such items for defense reasons, it may be appropriate for the United States to ensure through import controls that domestic producers are able to maintain a sufficient market share to meet our legitimate security needs. On the other hand, there may be other, more economical, ways of meeting these needs.

As Soviet aggression and political pressures in such areas as Afghanistan and Poland have caused U.S.-Soviet tensions to increase, there has also been a greater use of trade measures for the purpose of exerting political pressures on other countries. The wheat embargo and the tightening of U.S. exports of high technology items to the Soviet bloc are two examples. Another (though for a different political reason) is the recent ban on oil imports from Libya.

There seems to be a considerable difference in views among policy officials concerning the effectiveness in economic or political terms of trade measures as a punitive foreign policy tool. An evaluation of this option

as well as alternative ways of employing trade policy for international political purposes is desired by the policy community.

Ensuring that the United States maintains adequate access to supplies of key raw materials that are becoming increasingly scarce within the United States is another security issue we shall face over the next decade. The oil embargo in the early 1970's vividly demonstrated the seriousness of the potential problem. Thus, a number of officials have pointed to the need for more careful projections of our natural resource requirements and available supplies and, particularly, for a careful consideration of policy options aimed at ensuring that these requirements can be met through international trade.

Investment Requirements and Technology Transfers. Another field in which the United States has traditionally adopted a "hands off" policy--but where most officials now want the government to play a more active role--concerns investment performance requirements. Many countries, especially in the developing world, have long imposed a variety of requirements on foreign direct investment, including minimum levels of domestic equity interest and provisions for training of nationals to take over an increasing proportion of the jobs associated with the investment. However, another type of investment requirement which, though by no means completely new, is becoming important in both developing and some developed countries, directly affects the production and trade of U.S. subsidiaries. Foreign governments are to an increasing extent imposing domestic content requirements on the production activities associated with U.S. direct investment and, moreover, sometimes stipulating that a certain proportion of the output be exported. There are even instances where U.S. investment has been tied to exports to the parent company that are quite unrelated to the particular investment under consideration. This is widely used in East-West trade and investment arrangements.

Such requirements have become an increasing concern for U.S. trade officials and there is a consensus that the traditional response is no longer an appropriate one. Just as nontariff barriers can undermine the benefits from reciprocal tariff concessions, so too can investment performance requirements significantly distort the structure of world trade to the disadvantage of the United States. Already the United States is challenging certain performance criteria of the Canadians in the GATT, but there is a need by officials for a systematic consideration of various policy options for dealing with the problem. One approach is, of course, to be prepared to withdraw trade concessions from nations that, through their investment performance requirements, diminish the value of their previously granted tariff and nontariff concessions. On the other hand, concerns about growing foreign investment in this country have prompted some U.S. officials to call for restrictions on foreigners that resemble those we object to when directed against our own investments abroad. A broad examination of alternative options, including the possibility of a GATT-type code in the investment area, is needed to assist policymakers.

The issue of what policy the government should adopt toward the transfer of technology to other countries is also of considerable concern to policymakers. It appears in its clearest form in our dealings with the U.S.S.R.

and other Eastern European nations but arises in our relations with other market economies as well. Some officials contend that the technology developed in the United States is being exported for less than its full value and that we are in danger of losing much of our competitive strength by unrestricted sales of our best technology. Further analyses of policy options in this area are called for.

II. Applied Research Questions: Available Knowledge and Needed Research

The preceding section focused on the nature of the general options policy-makers in the trade community have followed in the past, are currently pursuing, or are considering for future use in dealing with the issues and goals for which they are responsible. This section discusses the central applied research questions that should be answered in evaluating the alternative policies that might be followed on specific economic issues.

Besides specifying a series of central questions, what is currently known (or readily knowable) about the issues involved will be briefly described. This will include a summary of the group's Phase I research on these matters. Furthermore, areas where additional knowledge is needed will be stressed.

The key applied research issues can be grouped by the five international economic goals and issues discussed in the preceding section, namely, (a) eliminating unjustifiable foreign and needless domestic trade measures that impede U.S. exports and cause import disruption; (b) facilitating industrial adaptation to increased import competition and new export opportunities; (c) assisting developing countries to raise their living standards; (d) strengthening the national security position of the United States as it is affected by trade and investment policies; and (e) reducing foreign rules and regulations relating to U.S. direct investment abroad that distort trade and reduce U.S. benefits from foreign investments.

A. Eliminating Foreign and Domestic Trade-Distorting Measures

As noted in the preceding section, U.S. officials did not press in earlier years as vigorously as they could have for the reduction of foreign trade barriers in part because of the strong U.S. international competitive position at the time. Since the political costs of pressing energetically for the removal of trade-distorting foreign measures are not inconsequential, it is important for policymakers to know whether the effects of ongoing shifts in the U.S. competitive structure are widespread and significant rather than being confined to a few sectors that can be adequately dealt with by means of sectoral negotiations between a few countries. Thus, the first set of questions are the following:

How extensive and significant are the industry shifts in the U.S. international trade-competitiveness position? What have been their effects on employment and the level and distribution of income? What industries are likely to face significant export expansion opportunities in the future, and what industries are likely to decline as a result of unfavorable comparative cost shifts?

The general nature of the competitive position of the United States in world trade is well known. Analyses of the world market shares of manufactured goods for the major industrial countries have been made for the past 35 years, and reports over the past few years by the GATT, OECD, and various individual scholars have clearly chronicled the deterioration in the U.S. competitive position. However, most studies have considered manufacturing as a whole or divided goods in this sector only into broad groups. Few have analyzed the manufacturing sector in terms of detailed Standard Industrial Classification (SIC) or input/output sectors or tried to relate detailed competitive shifts to changes in the employment of various types of labor. Consequently, while it is well established that the overall U.S. competitive position is declining, it is not clear how widespread in detailed industry terms this decline has been or what its total employment and skill-group effects have been.

Estimating Trade Competitiveness. One of the Phase I research efforts of the Wisconsin project (undertaken by Baldwin) was aimed at providing information on these points. Under two alternative short-run assumptions about substitution possibilities by consumers--one in which the total use of a product is fixed but imports can be substituted for domestic production and another in which substitution among products in response to relative price changes is also included--estimates of the effects of import and export competition on industry domestic growth rates in the 1972 to 1979 period were calculated for 284 four-digit manufacturing sectors. The growth-rate effects were then translated into absolute output changes as well as changes in the employment of five different skill groups. Furthermore, in order to demonstrate how the model could be useful to policymakers in forecasting future economic conditions (provided that a more recent time period was used as well as up-to-date output and employment relationships), detailed industry output and employment projections were made under the assumptions that past industry trends continue but that aggregate income grows at various alternative rates in the future.

The study serves to confirm the view of most policymakers that the decline in U.S. trade competitiveness is not simply confined to a few sectors whose problems make newspaper headlines. The competitive impact was negative for nearly two-thirds of all manufacturing sectors using the more limited substitution assumption and for almost one-half of the industries when part of an industry's competitive decline is attributed to consumers' substitution of another product rather than only to import substitution. However, there are also a significant number of industries that have performed very well in international competition.

The overall competitive effect is slightly negative using the first model and modestly positive under the second set of assumptions. Interestingly, however, the total employment impact is negative in both cases. The reason is that the industries gaining in competitiveness are generally characterized by a relatively high proportion of professional personnel and craftsmen whereas the losing sectors employ relatively large numbers of operatives, clerical workers, and laborers. Since the labor coefficients in the first set of industries tend to be low compared to the second, total employment can decline even though total output rises. The net annual number of lost

jobs attributable to increased import competition is about one-quarter of a million under the limited substitution assumption and somewhat less than fifty thousand under the alternative set of assumptions.

One part of Richardson's Phase I research maintains the short-run perspective of Baldwin's work. It estimates the extra costs of trade displacement and the extra gains from trade-related job creation when trade affects labor-market congestion. Richardson demonstrates how trade displacement will increase the average duration of unemployment for all those unemployed, either because of trade or not. Trade-related job creation will conversely shrink the average duration of unemployment favorable for all who are unemployed, whatever the reason. Simple calculations of these congestion effects reveal them to be at least as large and often larger than conventional measures of personal and social income shocks due to trade.

Richardson in his Phase I research also adopts a medium-term view of labor adjustment, in contrast to the short-run perspective of the impact analysis just described. In particular, his medium-term analysis recognizes that labor utilization over time in an industry is affected not only by changes in real income, the substitution by consumers of one product for another, and the substitution of imports for domestic output, but also by changes in labor productivity, substitution between primary and intermediate inputs, and substitution between labor and other primary factors. In assessing how well labor is likely to adapt to shifts in an industry's international competitiveness, it is also important to take into account these latter factors.

Richardson applies these ideas to trends in U.S. employment and nonemployee compensation by industry over the period from 1972-1979. He develops a flexible and general decomposition of trends into components due to output, productivity, commodity prices, factor prices, and factor substitution. The decomposition rests on very few restrictive assumptions. It can be further analyzed to estimate the importance of international competitiveness relative to other components of trends in employment and nonemployee income. The latter is important, of course, because of its close covariation with capital formation.

Finally, in a medium run where both capital and labor allocation decisions are sensitive to trade policy, Richardson examines the importance of anticipations, credibility, and transparency in the private sector's response to trade policy.

Services Trade. The Baldwin and Richardson analyses described above deal only with the manufacturing sector. Besides excluding agriculture and mining, they do not cover services--one of our more rapidly growing export sectors. However, another research project in the Phase I study (undertaken by Sapir) involved providing information on this sector. Unfortunately, only a comparatively small amount of work has been done in the field of services trade, but these studies--Griffith (1975), Sapir and Lutz (1980, 1981), as well as a U.S. Department of Commerce Task Force Report (1976) and several individual industry studies--have clearly indicated that certain forms of trade in services are becoming increasingly important for the United States and also that they are significantly restricted by a wide range of nontariff measures.

The first step in Sapir's Phase I work was to clarify some conceptual problems in the field, describe the nature of available U.S. data, summarize available knowledge, point out gaps that can be filled with further research, and discuss the need for international rules. Fortunately, he had already undertaken research for the World Bank on the subject so that this first task could build in large part on his previous work.

In addition, Sapir estimated the net overall employment effects, together with their skill-composition consequences, of the shift that is occurring from the production of manufactured goods to the production of services. There is appropriate concern in the policy community that not only will there be a net loss of jobs as this shift takes place but also that quality of the newly created jobs in the expanding services sector is, on average, lower than for those in manufacturing.

In his Phase I research on this issue, Sapir finds that the labor/output coefficient in the services sector is somewhat lower (about ten percent) than the average labor coefficient in manufacturing. More importantly, however, he also finds that the skill composition of the two sectors is quite different. There are significantly more professional and managerial personnel and clerical and sales persons involved in producing a given value of services output than for manufacturing output. On the other hand, the requirements of the services sector for craftsmen and operatives are much lower than in manufacturing. He concludes, consequently, that a significant labor adjustment problem may arise as the shift toward services continues.

The need for future research in services trade is very considerable if we are to succeed in mitigating the adverse effects of foreign trade-distorting measures on U.S. exports of services. We need much more information about the nature and extent of these distortions, studies of their trade and employment effects as well as of the structural adjustment problems associated with an increase in services trade, and an analysis of the best means for negotiating reductions in trade distortions in this field.

Future Competitive Shifts. Our knowledge of which industries are most likely to gain or to lose competitively during the 1980's is, like that concerning trends in competitiveness, reasonably good in terms of broad industry grouping but poor when it comes to industry detail. The many studies of the structure of U.S. exports and import-competing production undertaken since Leontief's classic analysis have provided a fairly clear understanding of the fundamental determinants of the composition of U.S. trade. Basically, the United States tends to be a net exporter in industries utilizing relatively high proportions of professional and skilled labor and a net importer in sectors requiring comparatively large amounts of semiskilled and unskilled labor. In other words, the United States has a comparative advantage in industries intensive in their use of human capital. The relationship to physical capital was considered paradoxical for many years in that our imports were more capital-intensive than our exports, but, recently, successful export activity seems to be correlated with physical capital as well as human capital. Thus, in broad terms we can expect future export gainers to be industries that intensively use these productive factors and future competitive losers to be sectors that rely heavily on semiskilled and unskilled labor.

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While this information is useful, policymakers need to know in more detail which trade sectors are likely to expand or contract. The project undertaken in Phase I by Baldwin and Hilton attempts to provide this type of detail. Although based on Hilton's Ph.D. thesis (1981), which was supported financially by the Labor Department, the project of applying Hilton's results to predict detailed trade changes was performed as part of the NSF Phase I effort.

By relating differences in factor-use requirements across industries to the actual pattern of trade in these industries between the United States and individual trading partners, Hilton is able to estimate the differences in average factor prices (and thus in unit costs) that brought about the observed trading pattern. Utilizing this information for a selected sample of countries, it was then possible for Baldwin and Hilton to ascertain how closely any particular industry's trade performance conformed to what would be expected on the basis of the estimated average differences in factor prices and unit costs. For example, if a high export/import ratio is expected for a given industry on the basis of unit cost differences and yet the actual ratio is low, then the actual ratio would be predicted to rise over time if adjustment lags are the major reason for the initial divergence.

The technique was tested by comparing predictions based on 1972 data with actual 1979 trade data. The results indicated that the technique was highly successful in predicting changes in export/import ratios between these years. For example, 74 percent of the industry-by-country trade ratios predicted to rise did in fact do so between 1972 and 1979.

Further research based on this technique, utilizing more recent trade and factor-use data and studying additional bilateral trading patterns, holds considerable promise as an aid to policymakers. Yet it should be considered as only one of several methods that can provide information about possible future competitive shifts. For example, the Wisconsin group under earlier grants from the Labor Department has constructed a detailed series of import penetration ratios (both imports relative to new supply and imports relative to consumption) and has analyzed trends in these ratios as a guide to future changes. Further work to keep these series as up-to-date as possible is needed. Other approaches that are likely to improve our predictive capabilities considerably are monitoring of industry investment plans and of actual production in other countries, as well as monitoring of technological developments in key industries.

Trade-Distorting Measures. Given a better detailed understanding of what is happening to U.S. exports and imports and what is likely to happen in the future, the next policy-oriented question to explore is the extent to which trade-distorting measures account for the competitive problems faced by U.S. producers. Thus, a second question relating to trade is the following:

How important are the trade-distorting measures in other countries or the United States in accounting for the international competitive problems faced by U.S. commodity-producing and service-producing industries? What would be the trade, employment, and income gains if they were eliminated?

Studies of nontariff trade distortions and their effects are numerous and well known. They include broad surveys with general estimates of their trade, employment, and income effects; studies of specific sectors and particular measures; and detailed listings of the many different types of trade distortions. In part because of these studies, U.S. negotiators in the Tokyo Round were successful in securing several important new GATT codes covering nontariff measures.

The central problem that investigators in this field face is trying to measure the relative importance of the many different types of national policies that all have some trade-distorting impact. Unlike for tariffs, there is no directly observable measure to use in estimating these effects. The Wisconsin group attempted to deal with this problem by an approach that is being used increasingly by U.S. policymakers, namely, to deduce or infer the existence of trade barriers by comparing actual trade performance with what could have been reasonably expected. For example, the Commerce Department has argued very persuasively that the failure of Japan's ratio of manufacturing imports to gross national product (GNP) to increase at all between 1960 and 1979, in contrast to increases of 500 to 600 percent in the United States, France, and the United Kingdom during this period, constitutes important evidence of trade-restricting practices by Japan.

McCulloch has employed such an approach in her analysis of nontariff trade-impeding measures. Specifically, she compares the industry export/import ratios predicted with the Hilton technique to actual industry export/import ratios and infers the possible existence of trade-distorting policies if they diverge widely. As pointed out earlier, the two ratios may also differ due to a lag in actual export/import ratios after a significant economic change, e.g., technological progress that affects an industry's comparative cost position. However, if predicted and actual trade ratios continue to diverge significantly over an extended period and there is no evidence of continuing comparative cost shifts, this suggests that a trade-distorting measure is causing the divergence.

The technique holds promise as an additional source of information helping to measure the effects of nontariff trade distortions. But other methods of ascertaining these are also necessary. One is to examine carefully the barriers of other nations and develop a model for estimating the effects of their removal on our exports. Such an approach can have high returns when directed, for example, at our agricultural exports to the developing countries and Japan.

One key field in which nontariff trade-distorting measures are increasing and in which the United States has important export and national security interests is high technology products. Research is needed to determine the extent to which other nations are distorting trade in these products, the resulting trade, income, and employment effects of the United States, and possible policy options for reducing barriers to trade in these products.

The trade-distorting effects of host-country policies toward U.S. foreign direct investment are another new but important concern for U.S. policy officials. As part of her Phase I research, McCulloch examined the relationship

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between U.S. trade performance and foreign investment policies directed toward U.S. subsidiaries abroad, including a survey of the recent practices of the Canadian Foreign Investment Review Agency that are currently being protested by the United States within the GATT framework.

Export-Promoting Policies. A final trade question relates to the effectiveness of current U.S. policies designed to stimulate exports. The two most conspicuous policies have been the extension of export credits by the Export-Import Bank and tax benefits under the program for establishing Domestic International Sales Corporations (DISC's). Thus, we need to know:

How effective have the export-promoting policies of the United States been, specifically, Export-Import Bank export credits and the DISC program?

Some analyses of these policies have been carried out but more are needed. Investigations of the DISC program have been undertaken by the Treasury Department (1975) and Mutti (1976). The analyses of the operations of the Export-Import Bank have pointed to their not insignificant opportunity costs and the distribution of benefits mainly to large, already competitively strong sectors. Nonetheless, Export-Import Bank credit may be justifiable in light of capital-market imperfections and the subsidizing actions of other countries. The DISC studies stress the large tax revenue loss from the program as well as the lack of evidence that the program improves the U.S. balance of payments.

Baldwin and Anne Krueger, who are jointly chairing a trade-policy conference in December 1982 sponsored by the National Bureau of Economic Research, have commissioned papers on each of these subjects with a view toward improving our knowledge about the effectiveness of these programs.

B. Facilitating Industrial Adaptation

Certain aspects of our trade-related problems are properly handled with domestic rather than international policies. An obvious example is when exports are being retarded by some needless domestic regulation. More fundamental issues are whether the domestic market system is operating efficiently to move labor and capital into industries with expanding export opportunities and out of sectors that are experiencing a declining comparative-cost position. On the export side, the central question can be stated as follows:

Are U.S. export-oriented industries being restrained by inadequate supplies of technical and skilled personnel or capital funds? If so, to what extent and how can the situation be corrected?

An issue of particular interest in regard to this question is the status of the high technology sector in the United States. This sector may fail to exploit its full potential not only because of foreign trade-distorting measures but also because of various domestic market imperfections or market failures. In particular, a shortage of engineers and scientists inadvertently brought about by government policy toward education or due to the failure of market forces to produce an economically justifiable supply may hamper this sector's growth. Similarly, since major innovations in the high tech-

nology sector have frequently come from small firms and these firms are particularly hampered by capital-rationing problems, inadequate capital funding may be holding back production and exports. In view of the perceptions of policymakers concerning the need to maintain a strong competitive position in the high technology field, both possibilities should be investigated. To our knowledge, no studies along these lines have been made recently or are underway.

The industrial adaptation problem is most frequently phrased in terms of adjusting to import competition. The question on this side is as follows:

How well have existing import-relief and adjustment-assistance programs worked in facilitating industrial adaptation? How can they be made more effective?

The literature on adjustment assistance, especially as it relates to worker adjustment assistance, is voluminous. At least four important empirical studies of U.S. adjustment assistance programs have been made (Bale, 1973; McCarthy, 1975; Neumann, 1978; and Corson, Nicholson, Richardson, and Vyda, 1979) and one of the Canadian program, (Jenkins, Glenday, Evans, and Montmarquette, 1978). In addition, the Organization for Economic Cooperation and Development (OECD) has studied the issues extensively and there have been numerous surveys and analyses by various individuals and organizations. The large literature dealing with poverty and retraining programs and with the effects of plant closings on workers is also directly relevant to this topic.

A conclusion that emerges from most of these studies is that the adjustment assistance programs adopted in the United States and elsewhere are not particularly effective. They provide needed income support for displaced workers (and thus can be justified on equity grounds), but results from the retraining and migration aspects of the programs have been disappointing. Their effects on the reemployment opportunities facing most workers have been minimal.

In view of the large number of previous studies it might be argued that there is not a pressing need for further studies of worker adjustment-assistance programs. However, one area where there is inadequate information is the employment impact of layoffs on other product and service sectors in a community. There is also a large gap in our knowledge concerning the effectiveness of our import relief programs. Surprisingly, few studies have been made of what has happened in industries that have been assisted in the form of higher tariffs or import quotas. Another area in which little research has been undertaken concerns the adjustment problems in agricultural sectors, such as dairy products, where there are domestic pressures to reduce support payments. The sheer magnitude of the import and export adjustment problem the United States is likely to face in the next few decades makes it imperative that we continue to study alternative approaches for dealing with the problem. These include wage subsidies, new forms of cooperation between labor and management, government-directed industrial policies, and improving the operation of the free market system.

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C. Assistance to Developing Countries

As noted in the discussion of policy options, the United States has long pursued a policy of assisting the LDC's through trade and aid measures, but many policymakers have now come to believe that this assistance must be decreased because of our trade-competitiveness problems. In view of the need to take action within the next two years if the GSP is to be extended, as well as the President's statements at Cancun about this country's willingness to discuss some of the economic concerns of the developing nations and his recent Caribbean Basin Initiative, there is a need for additional empirical research to assist policymakers. The following question indicates the type of information they require in order to make better decisions:

What has been the effect of our GSP scheme on the exports of the developing countries and what will be the effect of such arrangements as those we have proposed for the Caribbean Basin? What has been (or will be) the effect of these measures on U.S. trade, employment, and income?

The GSP scheme that was authorized under the 1974 Trade Act is another of the many trade policies which appear to have a considerable economic effect but which have not been studied in depth outside of the government. Murray (1980) has evaluated the U.S. scheme to some extent and Sapir's agreement to analyze it further in his paper for the Baldwin-Krueger conference will help to fill in our gaps in knowledge on the subject. For example, there are no detailed estimates of the impact on U.S. imports and exports nor on employment across sectors. Consequently, a significant detailed study is very much needed to assist policy-makers in possibly modifying or eliminating the scheme when it is considered by Congress in 1983 or 1984.

D. National Security

There are two central questions in this field:

Are there certain sectors that should be protected for national security reasons? Are there better alternative ways of meeting our national security needs?

How effective are embargoes on the export of essential consumer goods or high technology products in accomplishing their economic and political purposes?

The first question arises mainly because of the growing imports in such high technology lines as computer chips. As previously noted, to a considerable extent the increased imports seem due to foreign subsidies. In any event, these products play an important role in maintaining our defense capabilities, and it may be appropriate to take steps to restrain imports. Protection for computer chips on national security grounds is currently under consideration. Little can be said at a general level on the national security issue. What is required is indepth industry studies of those sectors where there seems to be a plausible case for protection or some other means of maintaining sufficient domestic production capabilities.

As noted earlier, the second question is pertinent because of the grain embargo under the Carter Administration and the recent tightening of the regulations dealing with exports of high technology items. It also seems quite possible that further export restrictions will be put into effect in the future. However, there appear to be few detailed empirical studies of the economic and political effects of export restrictions introduced for political purposes.

E. Investment Performance Requirements

The central question in this area can be stated as follows:

What are the effects of foreign investment performance requirements on U.S. trade, income, and employment? How can these requirements best be reduced or eliminated?

The U.S. Government and certain private groups have assembled a long list of various performance requirements imposed upon U.S. firms abroad, and there is now a need for detailed studies that assess the economic impact of these requirements on the United States. Recent papers by Grossman (1981) and Brecher and Bhagwati (1981) can be used as the analytical framework for such studies. As with the issue of trade in services, an analysis of the best means of negotiating reductions in these requirements is also needed. For example, is it best to press for a new GATT code dealing with them or can they be handled better by bilateral negotiations?

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CAPACITY, COMPETITIVENESS, AND CAPITAL MOBILITY
IN THE WORLD ECONOMY: CHALLENGES TO U.S. POLICY

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and

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I. Summary

This project identified a number of trends in the international economic environment that will pressure traditional U.S. trade policy and discussed a range of trade policy options being considered in the United States, focusing on their likely economic effects. The discussion of policy options was embedded in comparatively modern approaches to understanding international economic forces, approaches that rested on the new economics of imperfect competition, technological development, strategic behavior, and growth/adjustment in a world of unanticipated shocks. As part of project requirements, progress on these topics was aired at two meetings with economic researchers and the policy community, as well as in a series of compendia and a research progress report.

Findings and implications can be grouped under four headings. (1) Changes in the analysis of trade policy: Much research demonstrated the importance and novel implications of analyzing trade policy from the perspectives of the new economic approaches described above. (2) Growing international pressures on U.S. trade policy: Research described the increasing complementarity of U.S. trade and domestic production. It also traced the impact on U.S. trade of real exchange rates, real interest rates, technological growth/diffusion, and foreign industrial and antitrust policies. (3) The effects of alternative trade policies: Alternative trade policies were analyzed for differences in their predictability, credibility, rent creation, insurance value, strategic usefulness, secular/cyclical incidence, and capacity for managing market power. (4) In addition to these outputs, an agenda of research topics was generated for future endeavors.

II. Introduction

This paper describes the work performed by the National Bureau of Economic Research (NBER) under Phase I of the National Science Foundation's grant for international economic policy research. In Section III activities are described. Objectives of the research and approaches to its analysis are covered in Section IV. Findings and conclusions are discussed in Section V.

As an introduction, we should emphasize that we came to view the research as following two related paths. One investigated trends in the world economy that will put pressure on U.S. trade policy; this led to an exploration of the economic environment likely to confront U.S. policymakers. The other path researched specific policy issues and instruments. The two paths together provided for the policy community a coherent view of what is possible.

III. Phase I Activities

During Phase I, NBER researchers with a principal interest in trade policy worked on various aspects of U.S. options. The three-week Summer Institute in International Studies during August 1981 was designed to produce a survey of recent work on the analysis of trade policy that would be relevant for the project. Researchers were recruited from among the existing NBER group who would work toward production of papers for a working meeting with people drawn from the more technical side of the policy community in Cambridge, Massachusetts, October 29-30, 1981, and with a broader, more policy-oriented conference in Washington, D.C., March 4-5, 1982. In addition, many informal discussions of research results were held between the principal investigators, William H. Branson and J. David Richardson, and members of the policy community.

A. Summer Institute in International Studies, 1981

A major component of the NBER's annual (since 1979) Summer Institute in International Studies in August 1981 was a series of seminar papers surveying new research in trade policy. This series was organized by J. David Richardson of NBER and the University of Wisconsin and Gene Grossman of NBER and Princeton University. Fifteen papers were presented. Authors and titles are given in the list of references. The objective was to provide a firm basis in modern analysis of trade policy for the entire National Science Foundation (NSF) project, and the results were incorporated in the report by Grossman and Richardson (1982). We deem it essential for any careful program of policy research to remain closely connected to new developments at the analytical end of the research spectrum, and we dovetailed the NSF project with the NBER overall research program as an efficient way to ensure this connection.

B. Program Meeting, Cambridge, October 29-30, 1981

NBER "program meetings" are working sessions devoted to discussions of research in progress. A program meeting was held in Cambridge, Massachusetts, on October 29-30, 1981, to discuss Phase I research results to that date. The meeting was intended to review initial drafts aimed at the Washington conference the following March, and to generate a free and informal discussion of the program with relatively technically oriented members of the Washington policy community. The general topic was "LDC Growth and U.S. Trade Policy."

The presentations at the meeting were organized around the two main research themes of the project: work on the international environment that generates the problems and opportunities for trade policy, and research on particular policy issues and instruments. On the first day, William Branson presented a paper on U.S.-LDC interdependence (Branson, 1981), and Jeffrey Sachs discussed problems and prospects for less-developed countries' (LDC) debt (Sachs, 1982). The Branson paper was an initial draft of the paper later presented at the March conference. The first day of the program meeting ended with a roundtable discussion of current trade issues, focusing on the second theme of the program.

The morning of the second day was devoted to research papers by Paul Krugman, who spoke on technology and structural change (Krugman, 1981); Edward Leamer, who discussed his ongoing work on sources of U.S. comparative advantage; and Ralph Tryon of the Federal Reserve Board, who spoke on real exchange rate adjustment. These are three major aspects of the economic environment facing trade policymakers.

In the afternoon, two papers on "Issues and Options for U.S. Trade Policy" were discussed, a view from Washington by C. Michael Aho and Thomas O. Bayard of the Department of Labor, and a research perspective by Gene Grossman and J. David Richardson. The papers introduced a lively and broad discussion of the policy and research issues.

An important aspect of the NBER's research approach became apparent at the October program meeting. The project is housed in the NBER Research Program on International Studies and, more broadly, in the NBER as a whole. Thus it can quickly assemble a research group focused on a particular topic from among NBER research associates and affiliated economists. The October program meeting illustrated the breadth and reach of the NBER's program and showed that, as research topics or specific policy issues arise, the right group of analysts can be brought together in a timely manner.

C. Conference on U.S. International Trade Policy, Washington, March 4-5, 1982

This conference was organized jointly with the Congressional Research Service to discuss research results with the policy community, to exchange information and ideas about current trade policy, and to obtain guidance from the policy community on the future work of the program. The format of the formal sessions was a presentation of a research paper by a member of the NBER team, with discussion begun by a member of the policy community. Four research papers were presented:

1. William Branson on "OPEC Lending, LDC Growth, and U.S. Trade";
2. Gene Grossman and J. David Richardson on "Current Issues and Options for U.S. Trade Policy: A Research Perspective";
3. Paul Krugman on "Technology Gaps, Technology Transfers, and the Changing Character of U.S. Trade";
4. Laurence Kotlikoff and Jeffrey Sachs on "The International Economics of Transitional Growth: The Case of the United States."

In addition, Anne Krueger discussed her work on trade policy research and the future work program of the NBER American Trade Relations project (within the Phase II NSF program). C. Michael Hathaway, of the Office of the U.S. Trade Representative, also spoke; his topic was "The Impending Crisis in U.S. Trade Policy." The conference ended with an open panel discussion chaired by William Branson, with panelists from business, labor, and government.

The conference was intended to reach a broad range of policymakers and to stimulate an open and free exchange on the issues. It was successful. There was a continuing and lively discussion of problems of bilateral reciprocity, and of the difficulties of following an essentially free trade policy in a world of, at best, conditional free trade. The NBER team came away with a heavy work agenda, which is reflected in Richardson (1982b) and Sections IV and V of this report.

D. Contacts with Government Officials and Other Members of the Policy Community

In addition to the meetings described above, Branson and Richardson had extensive discussions in person and by telephone with a broad range of people in the policy community in the Phase I project. These were sometimes initiated by persons from the policy community and sometimes by the research team. One objective of Phase I was to build a network of contacts so that members of the policy community would become aware of the research effort and understand its accessibility to them.

IV. Objectives and Approaches

The general objectives of the NBER's Phase I research in international economic policy were: (1) to define the policy problems that are being created for the United States by growing competitiveness in international trade; and (2) to lay out as clearly as possible the policy options for response to these problems. Furthermore, during the NBER's Summer Institute in 1981 it became apparent that there have recently been major changes in the way we describe and analyze trade policy. Thus another short-run objective became: (3) interpretation of recent developments in policy analysis for the policy community. The original intention was to focus the description, analysis, and policy options on the problems of growing competitiveness from manufacturing sectors in developing countries.

Growing competitiveness in international trade and the increasing structural interdependence of the U.S. economy with the developing countries raise problems for U.S. trade and adjustment policy. These problems are compounded by slow growth in the United States and the rest of the Organization for Economic Cooperation and Development (OECD), and by growing beggar-your-neighbor export competition among them. The problems are: (1) maintaining access of developing countries in the U.S. and OECD markets, while simultaneously (2) keeping markets open for U.S. products (and not just services) worldwide, and (3) encouraging structural adjustment in the U.S. economy. As we have seen in the 1970's, the developing countries can maintain growth in the face of an OECD slowdown. This provides some degree of support for U.S. and OECD demand, but only as part of a picture in which U.S. markets remain open. The problem for U.S. policy is to formulate structural change and international competitiveness as a positive-sum game in the world economy, that is, as an interchange with payoffs to all participants.

The approaches to analysis of the problems posed by growing competitiveness and of the policy options available were generally economic. These included traditional economic modeling of problems involving technology

transfer (Krugman) and effects of trade policy (Grossman and Richardson); data analysis of changing patterns of U.S. comparative advantage (Leamer) and U.S.-LDC trade relations (Branson); and simulation studies of U.S. growth in the international environment since the late 1940's, with other industrial countries and LDC's "closing the gap" with the United States (Kotlikoff and Sachs). These approaches were refined by extensive discussion with policy analysts in organized meetings (October 29-30, 1981) at NBER headquarters in Cambridge and conferences (March 4-5, 1982) in Washington, and in informal discussions and correspondence with members of the policy community.

V. Findings and Conclusions

The findings and conclusions of Phase I efforts are described in detail in Grossman and Richardson (1982) and in Richardson (1982a, 1982b). These results can be grouped around four themes: (1) changes in the analysis of trade policy; (2) pressures on U.S. trade policy of growing international competitiveness; (3) the response of trade policy to these pressures; and (4) research needs that respond to (1) through (3). The results will be discussed under these headings.

A. The Analysis of Trade Policy

Many of the trade policy issues of the 1980's will be caused less by shocks than by currents, less by single disturbances than by processes. Many of the following are "trends" rather than "events": the declining health of traditional industrial sectors in developed countries; the concomitant growth of capacity of those same sectors in developing countries; the continuing diversification of multinational corporations across political and even sectoral boundaries (international conglomeration); and the corresponding increase in product specialization and in global market mandates for affiliates of these multinationals.

Discussion of trade policy has traditionally been focused, however, on singular events. A (single) rise in import barriers might increase production in some sectors at the expense of other sectors; a (single) rise in oil prices might be vitiated by a (single) retaliatory tariff; a (single) technological improvement in one factor's productivity might increase or decrease trade depending on export- or import-orientation of the factor and on consumption effects. Trade policy research has usually involved comparing the state of the economy with the trade policy to the state of the economy without it, then determining whether the trade policy has achieved its goals and, if so, at what cost.

Important as these event-centered issues are, they have been overshadowed in recent research by issues relating to trends, recurrent divergences around the trends, and adjustment back toward the trends. Examples of such trend/divergence/adjustment-centered issues are numerous. What is the ideal trade policy in a world of repetitive ebbs and flows of international competitiveness, in which trade policy may supplement imperfect insurance markets to compensate losers? How should a resource-rich economy adjust to a discovery of new reserves that puts upward pressure on its real exchange rate, thereby squeezing profits in the traditional exportable sector?

Sensible research approaches to secular trends, transitory divergences, and adjustment trajectories in international trade seem unlikely unless modifications are made to several traditional simplifications. (1) Factor endowments should be "unfixed" to take account of both accumulation and global reallocation. (2) Closer attention should be given to the evolving structure of the market environment in which international trade takes place. (3) Efforts should be made to understand better the dynamic processes that govern intersectoral resource mobility. (4) Stochastic shocks should be incorporated as well as explicit concern for the way in which expectations are formed by private and public agents.

To analyze trends over any interesting horizon, factor endowments cannot be taken as constant. Recognition might better be made of the fact that "capital" itself, and possibly "technology" as well, are often produced. Nor can the perfect-competition paradigm, the basic underlying theoretical framework for trade policy research in the past, necessarily carry the load it traditionally has in a world where trade is increasingly undertaken by large multinational firms, state trading companies, and even coalitions of both. That paradigm is an unwieldy tool where research and development and investment in new capacity can be used as strategic barriers to entry, and where differentiated products provide even small firms with some degree of market power. Once trade policy research accounts for the ways that investment augments capital stocks and noncompetitive behavior pervades trade relations, it is only a short further step to consider the global mobility of productive capacity and marketing networks, thus loosening the traditionally rigid distinction between nontradeable factors and tradeable commodities. In such an explicitly temporal and imperfectly competitive framework, research can also address the role played by "intermediate inputs," both produced and nonrenewable. Production and control arrangements for such inputs, which are closely akin to commodities one period and to endowments the next, importantly influence market structure and the scope for competition in modern industries where final output is the result of numerous independent stages.

To analyze divergences around trends and adjustment to them, exogenous fluctuations can be introduced in variables such as weather (and hence productivity), reserves of natural resources, technological change, and international competitiveness. Once these are introduced, trade policy has two components: a trend-sensitive component (e.g., a tariff schedule) set optimally to influence the trend, and a divergence-sensitive component (e.g., a safeguard clause or an adjustment assistance program) that adapts flexibly and sensibly to the revelations of "good news" and "bad news" in realizations of the exogenous and stochastic variables. In such an environment, trade policy may offset some of the natural variability or may itself introduce additional "noise" into the economy. In such case, trade policy becomes endogenous, not exogenous as in traditional discussions, and the scope for discretion on the part of policymakers involves how best to choose the guidelines governing their responses to trends, divergences, and adjustments that confront them. Once trade policy is recognized as being endogenously responsive to economic flux, it then becomes important to ask whether and how the private sector might divert resources from production to political lobbying, and to ask whether and how private sector anticipations of trade policy influence its effectiveness.

Much of the NBER research on trade policy analyzes trade policy issues and options for regimes: in which factor endowments and market structure themselves vary in response to the trade policy; in which the variability (variance) of international fluctuations is as important as their trend (mean value over time); and in which expectations of such fluctuations and the response of trade policy to them affect adjustment, injury, and growth.

If modern trade problems stem increasingly from secular trends and recurrent divergences, it is only natural that trade policy should evolve in a parallel fashion. Trade policy may be increasingly directed toward untraditional trend and divergence targets, some of which include: maintaining desirable capital formation; increasing intersectoral labor mobility; undermining sector-specific bastions of factor-market power; appropriating the full social value of U.S. technological progress; defending U.S. producers from predatory exercises of foreign market power; minimizing resource-diverting rent-seeking; dampening unanticipated employment and sales volatility from foreign shocks; and supplementing imperfect insurance markets. The trade policy options consistent with these untraditional targets are themselves untraditional: restrictions on outward technology transfer; selective discrimination between foreign and domestic markets in application of U.S. antitrust law; strategic offshore assembly provision and duty-free industrial zones; temporary-migration programs; and "leading" or preannounced trade policy.

It is striking that almost all these targets and options for U.S. trade policy are concerned fundamentally not with trade, but with U.S. industrial health and balance or with smoothly functioning U.S. factor markets. Trade policy in the United States promises increasingly to become a stalking horse for industry policy, regional policy, incomes policy, and manpower policy. Whether it should be, or whether it would be better to admit explicitly that, whatever our philosophy, we have and want some government policy toward industries and factor markets, is an important issue for the policy community to address. And as global markets become more and more integrated, both product and factor markets, it may become harder and harder to distinguish trade policy from industry policy or factor-market policy.

Many pressing policy needs concern adjustment. The inertia that plagues many developed economies today is self-perpetuating. Absence of mobility breeds rent-seeking behavior in support of narrowly defined sectoral interests. The policies that emerge as a result encourage further investment and worker commitment to these same sectors and even stronger political pressure for insulation from competition. Inertial rigidity intensifies and productivity falls.

Appropriate adjustment policy requires that incentives for movement to the most productive economic activities be preserved. Income preservation goals should be sought in a manner that maintains adequate adjustment incentives. Where protection is chosen to preserve industrial production or employment, it will impede adjustment least if it is explicitly temporary. It should also provide no unconditional windfall gains. In fact, revenue-generating protection (tariffs, surcharges, auctioned quotas) has the potential to provide funds for underwriting desired adjustment (e.g., retraining,

retooling, and relocation, such as rewarding workers who leave designated declining industries to accept employment in other industries).

Current trade policy can be used to mitigate unanticipated import-related shocks to specific industries. These safeguard policies are justifiable as substitutes for absent markets in which workers would insure their investment in human capital. But a less wasteful alternative to achieve this same goal might be a domestic loan and insurance scheme, providing benefits (given a worker's participation and payment of premia) that were contingent on the state of competition from abroad. Under such a program, buyers would continue to enjoy the benefits of low-priced imports and incentives for factor reallocation would be preserved. In order to avoid problems of moral hazard, payments would presumably be triggered by market conditions that lie outside the control of the decisionmakers involved. In industries where such indicators were not readily observable, trade policy might still have a second-best role to play.

If reduced uncertainty from global flux is a goal of government trade policy, the policy should itself be predictable and consistent. A clear commitment to a stable policy regime, with clear guidelines for change, provides the appropriate incentives for investment that will become sector-specific once made. It also facilitates adjustment by encouraging mobility out of declining industries. Furthermore, trade policy can be more potent and less distorting if announcement effects stimulate responses even before the actual policies are enacted. But such announcement effects can occur only if the government preserves credibility in its stated intentions.

Predictable trade policy is not, however, trade policy that is unresponsive to the current state of events. Flexible policies are indeed preferable to those that are set once and for all. What is needed is consistency of government responses, so that agents can accurately form expectations about what policy will emerge in a given situation.

With respect to adjustment, coordination of trade policy with migration policy may have potential in some sectors for dealing with current trade problems. Temporary migrant workers seem willing to bear the employment risk in industries suffering from severe, but perhaps not permanent, bouts of import competition. They might make domestic production viable again in some declining labor-intensive industries and thereby preserve the employment and incomes of native factors of production in those industries. This is especially true for multistage processes, where the United States is prevented from appropriating its comparative advantage in some activities because of the high labor costs involved in performing related stages.

The offshore assembly provision of U.S. law and judicious use of duty-free industrial zones may be similarly useful policies. Instead of moving factors across fixed boundaries, they move boundaries around fixed factors. They allow desirable production stages to be undertaken at home without raising costs on the remaining stages through trade restrictions. In other words, these policies recognize that nominal protection of stages in which the United States has no comparative advantage often implies negative (effective) protection of stages in which the United States would be competitive.

Content protection, by contrast, can be counterproductive because it does not recognize this regularity. An industry as a whole will often not benefit from a policy that causes domestic costs to be inflated by the performance of stages in which the country has no comparative advantage.

The trade policy options discussed above are those that spring most directly from recent research reviewed in Phase I of the project. The discussion is obviously not exhaustive, but it does seem sufficient to illustrate the untraditional challenges confronting U.S. trade policy. Few of those challenges stem from any fundamental doubt about the gains from specialization according to the law of comparative advantage. Most stem from the attempt to increase such gains by trade policy in a world of growing market imperfections, increasingly complex political processes, and rising incidence of unanticipated fluctuations.

B. Pressures on U.S. Trade Policy

U.S. imports are becoming more complementary to domestic production. The trend over three decades is toward increasingly positive U.S. trade balances in capital goods, chemicals, and agricultural products, and increasingly negative U.S. trade balances in fuels, automotive products, and consumer goods. This appears to reflect restoration of pre-World War II trends. It is unclear, however, whether it represents the future trend in U.S. comparative advantage.

These observations raise many questions. What role has foreign and U.S. trade policy played in such trends, including foreign performance requirements and local-content requirements? Should the United States attempt to reverse these trends by reciprocally parallel policies? By explicit industry policy? Could the trends be significantly or quickly arrested? Or are inertial forces of learning-by-doing and increased specialization of factor skills too strong?

It may be useful to assess whether increasing complementarity between imports and domestic production increases U.S. vulnerability to cyclical fluctuations abroad, to commodity-price "shocks," and perhaps even to military threat. Increasing complementarity of this sort probably makes domestic adjustment problems more severe. Skills, technology, and equipment differ more radically between import-competing industries and the rest of the U.S. economy than in the past, when U.S. trade was more heavily intraindustry trade. With increasing complementarity, ebbs and flows of U.S. competitiveness may cause structural/transitional unemployment and excess capacity to be correspondingly larger than in the past. Policy options to be evaluated in this regard include trade adjustment inducements, perhaps administered efficiently by multiple-industry firms.

Aggressive industrial subsidization and export promotion in newly industrializing countries contribute to explaining shifting U.S. comparative advantage, international wage convergence, and rapid rates of capital formation abroad. Potential tax and regulatory relief for U.S. corporations plus looser extraterritorial application of U.S. antitrust law (e.g., formation of export trading companies) might offset these influences in the future.

The commodity composition of U.S. production and trade clearly has some influence on overall economic prosperity and growth, as reflected, for example, in the concept of a "balanced industrial base." It is not clear, however, how to define this concept, nor whether trade policy is a desirable way of attaining it, as opposed to, say, explicit industry policy.

Recently increased attractiveness of the United States as a global supplier of agricultural goods, coal, some forest products, and politically safe, high-yield investment opportunities discourages U.S. production of manufactured exportables and import-competitive goods. The intervening causes are movements in relative prices and commodity-specific real exchange rates. The phenomenon is not unlike the "Dutch disease" from discovering large oil and gas fields or the "Swiss disease" from providing "secure harbor" for global investments.

The potential need for U.S. trade policy toward services may grow as U.S. comparative advantage shifts toward them. Services trade may call for more extensive policy commitment than commodities trade. This is due to the relative frequency with which service transactions involve externalities--benefits and costs to third parties that cannot be priced in markets. Examples of services with external effects on third parties (that is, on the "public") include technological expertise, telecommunications and "informatics," financial intermediation, and insurance.

Technological progress in the nation most advanced in technology can be shown to benefit all nations. Technological transfer from the most advanced nation to others is not necessarily in its own self-interest, however. Unfavorable potential outcomes include: (1) upward pressure on the relative price of traditional products produced by recipient countries (e.g., secularly increasing primary-product prices); and (2) the slowing of technological progress in the most advanced country (to the extent that overall recipient prosperity promotes research and development). There are a number of explanations of why the United States as a whole might benefit economically from restrictions on exports of its technology--were it not for the costs of administering such a program feasibly and its potential disincentives to innovation.

Important trade issues arise from intertemporal considerations associated with real interest rates. Divergences between U.S. and foreign real interest rates can be as significant an influence on the U.S. trade balance as trade policy itself, especially in a growing economy. Trends in real interest rates can change the commodity composition of trade because their induced financial transfers alter the real exchange rate, with subsequent shifts in the margin of U.S. comparative advantage among goods. Trends in real interest rates can even change U.S. international competitiveness within sectors such as autos and capital goods, because capitalization of borrowing costs accentuates the dollar value of natural price differentials.

Observed trends in international income inequality are consistent with a "catch-up" model of world growth and trade. Dispersion in national growth rates is explained by dispersion in rates of change in total factor productivity. Total factor productivity is influenced by technological progress.

Fundamental technological progress is determined by the expansion of knowledge and innovation in the most advanced nations. But derivative technological progress can be imported and applied successfully by middle-income nations. These nations have crossed broadly defined thresholds in infrastructure, education, and political/judicial stability. They have rapid growth rates because they can appropriate a large existing pool of nonproprietary technology at low cost. Poor nations, however, are unable even to apply existing technology. They are left with no income growth due to total factor productivity. Overall income growth rates, reflecting this, are lowest for the poorest, and highest for middle-income countries, causing convergence between the top and middle of the international income distribution, and divergence between the middle and the bottom.

C. Responses of U.S. Trade Policy

Responses of U.S. trade policy to pressures arising from increased competitiveness are related to new results from research on trade policy and to new perspectives on the position of the United States in the world economy. Since the private sector regards trade policy as responding to political pressure, research needs to be done on the design of trade policy that would be a predictable response to deviations of the economy from long-run trends.

Options to make U.S. trade policy more predictable include increased international consultation, more careful characterization of concepts such as injury, and the development of codes of conduct to cover technology transfer and international corporate transactions. Increased predictability of trade policy should reduce uncertainty. It may also shift the U.S. "adjustment mix" toward "leading adjustment" based on flexible (expected) prices and costs, and away from "lagged adjustment" based on sluggish (distorted) prices and costs. Predictable policy presupposes credible policy and precludes unsystematic stop-and-go incentives.

Trade policy that can be credibly anticipated, perhaps even preannounced, may bring about a desirable sort of "leading adjustment." Leading adjustment has the virtue of being controlled by expected prices, costs, and profits, all of which are flexible, thereby contributing to market clearing and minimizing adjustment distortions such as unemployment and excess capacity. Adequate data for monitoring and extrapolating are especially important if trade policy is to be credibly anticipated. In their absence, policy itself can increase the uncertainty attached to international trade and reduce its benefits. Leading indicators of changing comparative advantage could be valuable aids to formation of trade policy, especially of the anticipatory sort. A candidate that has historically performed in this way is inter-industry divergences in the rate of domestic investment. Research on the definition and consistency of other potential U.S. competitiveness indicators seems desirable.

U.S. trade policies of two different kinds may be needed in the future, one aimed at secular adjustment and the other at cyclical adjustment. Permanent energy-related adjustment is still incomplete, and impending automation/robotization may cause secular shifts of a comparable magnitude.

Cyclical dumping and preservation of capacity raise issues that seem inadequately addressed in current General Agreement on Tariffs and Trade (GATT) conventions and safeguard mechanisms.

Temporary shocks to exports, imports, and commodity prices have different impacts than permanent shocks. Only the latter alter the permanent incomes, sales, or profits on which most economic decisions are based. There may therefore be economic advantages to a trade policy that is contingent on circumstances, with many aspects that are temporary (e.g., safeguard provisions) and reversible (e.g., adjustment provisions).

One of the disadvantages of increased reliance on quantitative and administrative trade policy is the increased opportunities it permits for private appropriation of implicit rents. These opportunities can divert otherwise productive resources toward wasteful "rent-seeking." If U.S. trade policy becomes increasingly responsive to economic flux then it will be important to evaluate how many resources the private sector will divert from production to lobbying and how private sector anticipations of government's trade policy will influence its effectiveness.

When the behavior of foreign nations, firms, and individuals is sufficiently competitive, then there are only weak defenses of interventionist trade policy. In the absence of market distortions, market-determined trade wastes fewest resources; in the presence of market distortions, policies other than trade policy waste fewest resources. But when policy and collusion abroad leads foreign competitors to act strategically as a group-conscious whole, then a passive U.S. policy response is unlikely to be the optimal rejoinder. A passive policy response is as unlikely to be optimal as finding in a two-person game that one player's optimal strategy is independent of the other's. But the economics of trade policy in a strategic, game-theoretic framework are scarcely developed by comparison to their exhaustive development in a competitive framework. It would seem useful to distill some simple insights on trade policy in a world with small numbers of group-conscious coalitions.

An important disadvantage to strategic motivation for U.S. trade policy is that strategic trade policies can have enduring and costly expectational overhangs. U.S. embargoes on exports of lumber and soybeans and the freezing of Iranian assets seem to have provoked an international reaction to overdependence on U.S. suppliers. This reaction reduces U.S. competitiveness and undermines U.S. attempts to improve its world market access.

It is unclear whether the U.S. possesses unexploited national market power in world markets and, if so, whether trade policy should be used to exploit it. It seems probable in many industries that natural barriers constrain trade already by more than enough to negate national benefits from monopolistic policy restriction. In some industries, monopolistic U.S. firms proceed rationally in their decisions on pricing output and exports, so that there is no case for added intervention via trade policy. And in a few industries, the United States is a relatively small global supplier even though its home market is large. Even if unexploited market power did exist, furthermore, maintenance of U.S. political and military

influence in the world may be enhanced by refraining from economically sensible but aggressive trade policy.

There seems to be divergence between political and research perspectives on U.S. trade policy. Research perspectives focus on transitional "adjustment," presupposing that something approaching market competition would prevail if adjustment could be completed. But political perspectives include a more fundamental questioning of market reliance, with some support for a "negotiated" world trade structure that would administratively constrain and channel global market forces. From this point of view, the real issues concern negotiation to order and organize markets, not adjustment to respond to them. (The parallels to "Southern" demands to "order" the international economy by political bargaining are notable.)

Likewise in the business community, differences can be noted between international-market orientation and political-market orientation. International-market orientation embodies acceptance of international competition as fair and of the need to adjust to it. Political-market orientation perceives measures of inequity in international competition and seeks political redress from it. There do seem to be grounds for concern that U.S. business has become increasingly oriented toward political and away from international markets.

D. Research Needs

At various points in the October 1981 and March 1982 meetings, the following were suggested as research topics on U.S. trade policy:

(1) Broadly focused research is lacking on the overall scope, thrust, and effectiveness of U.S. trade policy. Definitive studies do exist on one aspect or another, but few studies compare, integrate, and catalog how various U.S. trade policies support or undermine others. Diffusiveness in research on U.S. trade policy is a reflection of the diffusiveness of responsibility for U.S. trade policy among many government agencies.

(2) Indexes of the overall protectiveness of U.S. trade policy would be useful in forecasting trends, evaluating further intervention, and assessing international competitiveness. Attempts are currently underway to construct and refine such a measure. Closely related research aims at determining the volume of trade if comparative costs were its only determinant and at estimating "natural" international competitiveness by comparing national export performance in third-country markets.

(3) Economic research should include evaluations of the pros and cons of the United States continuing strict adherence to most-favored-nation (MFN) treatment in the modern international economy. Such research should consider how the United States is affected by other nations' quantitative barriers, preferential trading agreements, and sectoral arrangements. It should assess the likely consequences of U.S. policy initiatives in specific sectors (e.g., for agricultural or high technology products), or toward specific regions (e.g., the Caribbean or Pacific Basin). And the research might sensibly include analysis of the economic value of past initiatives with sectoral or

regional focus (e.g. the Canadian-American Automotive Agreement, or United States-Mexico trade arrangements).

(4) Practical research could evaluate the scope for making GATT procedures effective in agricultural trade. It could determine the possibility (if any) of liberalizing agricultural trade on a multilateral basis. It could provide an assessment of the potential for multilateral agricultural agreements to lean toward protectionism and market rigidity as in steel, shipbuilding, and "fibers."

(5) Deeper and more definitive evaluations would be useful for global trade policies of increasing importance: aggressive export financing, performance requirements (including mandates for local ownership, local content, and export shares), and graduated systems of preferences. Evaluations should include estimates of their effects on U.S. industrial prosperity, employment, and international competitiveness.

(6) Deeper and more definitive evaluations would be useful for U.S. trade policies of increasing importance: content protection and offshore assembly arrangements. Evaluations should include estimates of their effects on U.S. industrial prosperity, employment, and international competitiveness.

(7) Objective research on U.S. trade and national security seems needful. Many questions remain unanswered. What has been the strategic value and effectiveness of U.S. export embargoes and controls since 1948? To what extent and how fast does production substitutability in an unfriendly country undermine any U.S. attempt to differentiate strategic from nonstrategic goods? What kinds of international interdependence have historically weakened national security? What kinds have historically reduced international friction and confrontation? How does U.S. defense spending affect U.S. international competitiveness?

(8) More research effort might be devoted to the interface between flexible exchange rates and U.S. trade policy. Do flexible exchange rates make some U.S. trade policies more effective and others less effective? Do they increase the frequency and variance of unanticipated shocks to sectoral international competitiveness? Is there any reason to expect such variation to be injurious or more so in some sectors than others? Is trade policy a sensible and efficient vehicle for insuring against such injury? Or are other policies and private risk-bearing arrangements feasible and less wasteful?

(9) It may be desirable for economic research to compile an inventory of practical externalities and distortions attached to major industries. Such an inventory might provide a fundamental basis for: assessing any industry's claims to protection in the "national interest"; evaluating what sometimes seem like romantic reasons for trade policy, e.g., to promote "high tech" endeavors; and establishing the economic cost of implementing national goals for industry composition in a second-best and inefficient way (trade policy being a likely candidate).

The NBER's Phase I research effort showed that an enormous amount of productive research on U.S. options for trade policy can be done, but that much more remains to be done. The Phase I objective to explore the researchable problems with the policy community was accomplished through promulgation of papers, meetings, and private conversations. The findings above reflect both the size of the remaining research effort that is needed, and the policy community's priorities for a research agenda.

It seems desirable to think of future research efforts directed along two major lines: study of the sources of international economic pressures on trade policy, and study of particular issues and instruments. Any study agenda should include attempts to project future trends, and to present analyses of current views and options. Members of the policy community should be consulted continuously and included in all evaluations.

The central questions for future research center on growth of trade competition for the United States, formulation of alternative policy responses, and analysis of the cost of alternatives. This will require study of relationships among investment, technology, productivity, trade, and real exchange rates, and of domestic reactions to trade pressures. Applied research must be done to establish some of these relationships for the first time and to see the effects of specific recommended trade policies.

Some future research will continue to be based on traditional empirical methods in economics. In addition, models of strategic behavior may be useful to analyze aspects of trade policy. Some concepts and techniques from political science seem helpful to explore the broader implications of the decline in the U.S. relative economic position since World War II.

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TOWARD A RESEARCH PROGRAM FOR U.S. TRADE POLICY IN THE 1980's

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The Brookings Institution

I. Introduction: The Rationale for Trade Policy

The experience of every country since World War II is that its own prosperity is enhanced when it makes a conscious effort to look outward and integrate its economy with that of the rest of the world. Discovered first by the older industrial countries, this observation has subsequently been confirmed by several developing countries. By way of contrast, all countries that have chosen inward-looking, import substitution strategies for economic growth have been disappointed despite some temporary success. Thus economic interdependence in the world economy has grown as the volume of international trade has increased faster than world real output. This occurrence is widely recognized and is not challenged by serious analysts. From this one might conclude that free trade is universally admired and self-enforcing. However, that is not the case and thus the dilemma of commercial policy.

Both theory and practice have demonstrated four types of benefits that a country might obtain by interfering with the volume and pattern of trade that would result from free markets. First, a country that is a large buyer or seller of a product can exploit its monopsony or monopoly position to extract better terms of trade from its trading partners. Second, trade intervention might offset social costs that are not reflected in private incentives. These may involve changing the pace of adjustment and altering the distribution of income. Interfering with imports or exports does change the internal income distribution in a country from what it would have been. While interferences involve efficiency losses, they may be less inefficient (costly) than other instruments available to the country to obtain a desired redistribution and, on balance, be seen as beneficial. Third, there is the so-called infant industry argument and, fourth, intervention may be justified on the grounds of national defense. Thus, while countries recognize the benefits of a free trade system and genuinely support its existence, they might nevertheless continually engage in actions that circumscribe and undermine it.

Over the past year, the Brookings Institution has participated in Phase I of the National Science Foundation (NSF) program on "U.S. Policies in Response to Growing International Trade Competitiveness." After an extensive series of interviews with members of the U.S. trade policymaking community, and on the basis of our own research, we found that most of the concrete problems facing U.S. policy related to these motives for trade intervention. Accordingly, we designed a program of research organized around four major questions, each of which corresponds to one of the reasons for trade intervention.

- (1) How should U.S. policymakers respond to foreign distortions of goods, services, and investment flows?
- (2) How can policy promote the efficient adjustment of the U.S. economy?
- (3) How can U.S. policy promote the more complete integration of developing countries into the global trading system?
- (4) What forms of intervention in trade are required to meet the needs of national defense and foreign policy?

In this paper, which draws heavily upon research undertaken for Phase I of the NSF program, we first outline some important features of the current policy environment and then discuss the need for research on the questions stated above.¹

A. The Policymaking Environment in Developed Countries

For the developed countries, the period since 1973 has been associated with high inflation, unemployment, and energy prices and low rates of growth and productivity.² It marked the end of a phase of remarkable growth in which the industrialized countries had narrowed most of the gap in living standards that had existed between them and the United States at the end of World War II.

The center of global economic growth has shifted from the developed to the developing economies. The increases in oil prices have boosted the purchasing power of the oil exporters. The oil-importing developing countries have adapted to the new conditions far better than their more developed counterparts. To finance their oil bills, they have had to borrow and export more. But, remarkably, they have also raised their saving and investment rates. As a result, they have been able to sustain their economic growth. The developing country purchases have become particularly important in the markets for capital goods and agricultural products supplied by developed countries, and their exports of manufactured consumer goods to developed countries have rapidly increased.

The industrial countries, particularly in Europe, are on a path toward protectionism. This trend does not grow out of an intellectual belief that it is the correct policy. To the contrary, the rationale for an open, liberal trade regime remains dominant. Nor does the trend grow out of the actual experience of these countries when international trade expanded rapidly on an intra-industry basis since no serious adjustment problems were encountered. Rather, the trend comes out of the frustration of governments in using existing instruments of policy to deal with the serious dynamic stagflation problem of their economies.

Japanese and developing country manufactured goods exports have become a source of concern for developed country governments. While Japanese exports of heavy manufacturing products compete with ailing domestic industries, their progress in the electronics and other high technology sectors is perceived as a threat to sectors with growth potential. The friction is

exacerbated by the unbalanced nature of Japan's manufactured goods trade. In European eyes, the United States is coupled with Japan in threatening domination of high technology products. Imports of labor-intensive products such as textiles, clothing, and consumer electronics from the developing countries, on the other hand, contribute to the dislocation of unskilled workers for whom it is hard to find employment in a slowly growing economy.

In the period since 1973, nations have sought to protect their domestic market with measures that have contravened or circumvented the General Agreement on Tariffs and Trade (GATT) rules. Committed to the maintenance of particular tariff levels, countries have increasingly resorted to nontariff forms of protection. They have erected barriers that are selective (i.e., apply to particular countries or groups thereof); concluded or extended special sectoral arrangements (for shipbuilding, steel, and textiles); and placed quantitative restrictions on a number of imported products. These quantitative restrictions have taken the form of quotas, official agreements with exporters to restrain their imports (orderly marketing agreements or OMA's), and so-called voluntary export restraints (VER's), under which exporters (usually under fear of being denied market access) limit their shipments. In addition, a variety of other measures such as discrimination against foreign firms in government procurement, investment performance requirements, promulgation of quality and safety standards that are expensive for foreigners to meet, and delays in licensing have been used to limit foreign competition. Restrictive arrangements for textiles, steel, shipbuilding, and automobiles have accounted for the bulk of the protective measures, while Japan, Hong Kong, Korea, and Taiwan have been the major focus of the new trade barriers.

Nonetheless, the extent of the drift towards protectionism should not be exaggerated. The movement towards free trade prior to 1973 has by no means been reversed. The Tokyo Round agreements made important advances in dealing with nontariff barriers (NTB's), and Japan, in particular, has taken active steps to reduce its trade barriers. But the most convincing evidence that developed countries have remained open to foreign trade is the rapid growth in the volume of manufactured imports by these nations from Japan and the developing countries. (From 1973 to 1980, these grew at annual average rates of 8.2 and 9.3 percent, respectively.) While it has not yet done so, however, there is a danger that this new protectionism could erode the gains made in the earlier period.

B. Policy Environment in Developing Countries

By way of contrast, the developing countries never accepted the free trade doctrine as being intellectually superior for their circumstances. Rather, they adopted growth strategies that were inwardly focused and supported by an import-substitution trade regime (IS). Many less-developed countries (LDC's) did stimulate growth for some time using IS, but several economic problems were created either directly or derivatively because of IS. Furthermore, the stimulus to growth from IS began to wane once the easy consumer products substitution was completed. Some LDC's continued along the IS path to produce capital equipment with generally disappointing results. However, other LDC's chose an alternative path of an export promoting trade

regime (EP). Numerous studies have shown the superiority of EP over IS. The results of these studies are being dispersed and endorsed by economic planners. A major ingredient of EP is the liberalization of imports to overcome the anti-export bias that is endemic to IS. Thus several important developing countries have already begun to liberalize their import restrictions and many more are contemplating doing so.

C. U.S. Trade Behavior

Over the postwar period, the patterns of U.S. trade have reflected the growing productive capacities of nations abroad.³ Trade between the United States and the developing countries entails specialization along the lines of comparative advantage associated with factor endowments related to different stages of development. Conventional approaches analyzing relative factor endowments and productive capabilities should therefore prove fruitful in understanding developed countries-less developed countries (DC-LDC) trade. But the growth of intra-industry specialization as a result of comparative advantage underscores the need for considerable disaggregation at the process as well as the product level.

As their production and technological capabilities converge, however, the determinants of success in international competition between developed countries are becoming increasingly complex. Analytical approaches which focus on relative endowments of factors of production provide less adequate explanations of trade patterns among industrial countries as these countries all move toward specializing in products which require the intensive use of human capital.⁴ While the United States may still occupy a leadership position in international innovation overall, its lead has diminished as innovations are diffused with increasing speed and other nations increase their innovative capabilities.⁵ New products and processes are moving across the Atlantic and the Pacific in both directions. The product cycle is no longer a phenomenon unique to U.S. manufactured goods trade.⁶

In the technology-intensive sectors of industries such as chemicals, electronics, automotive products, precision instruments, and specialized machinery, international competition occurs increasingly between corporations with global vision and reach and with similar domestic capabilities. Foreign affiliates of U. S. corporations, for example, have emerged as significant competitors for domestic U.S. firms. The growth of intra-industry trade in finished, differentiated products is further evidence of the increasing similarity in developed countries' preferences, incomes, and production capabilities.⁷

There is a widespread misconception about the role played by relative prices in determining trade performance. Since much of the trade competition between developed countries occurs in differentiated products, relative prices are believed to be unimportant. In part, this opinion reflects faulty reasoning. Simply because numerous factors such as quality, design, and service are important, it does not follow that price is unimportant. The crucial question is whether at the margin price makes a difference. In addition, there is some controversy over the empirical evidence. Those claiming to find no relationship generally seek a contemporaneous response.⁸

Careful statistical studies which examine the evidence over periods of at least three years find sizable effects.⁹

The fact that the demand for differentiated products is relatively sensitive to their prices implies that buyers have a fair degree of choice among alternative products. Given the presence of substitutes, demand will respond to other factors such as quality, design, marketing, servicing, financing, and even bribes and kick-backs to purchasing agents. The same logic also implies that the widespread availability of similar production capabilities will increase the sensitivity of locational decisions to relative costs, in addition to factors such as union-management relations, the tax structure, production subsidies, regulatory constraints, and trade protection. Yet among many policymakers there seems to be a tendency to underplay the importance of relative prices, just as economists have neglected some of the other influencing factors.

The increasing substitutability between developed country products has important implications for explaining trade behavior and for trade policy. Case studies may prove to be more enlightening than broad econometric studies in illuminating the reasons behind particular industry behavior.

At the firm or industry level--given the international similarities in technology--management skills, labor-management relations, and strategic decisions relating to investment and marketing may be as important as input costs in determining performance. Moreover, the loss of international competitiveness due to weaknesses in these respects need not be permanent. For example, Abernathy, Clark, and Kantraw describe how managerial errors by U.S. television manufacturers have been corrected by Japanese takeovers, thereby renewing the competitive ability of U.S. firms.¹⁰ The coexistence of high- and low-technology processes within individual industries and the increasing parity in international technological capabilities implies that, apart from being able to specify the "high-technology" nature of the products and processes in which the United States is likely to succeed, the detailed prediction of winners and losers is becoming increasingly difficult.¹¹

Since 1980 there has been a dramatic real appreciation of the U.S. dollar. As a consequence, the U.S. tradeables sector has suffered a substantial erosion in its competitiveness at a time of severe domestic recession. Over the next few years, significant competitive pressures will be felt by all sectors of U.S. manufacturing.

In summary, we can distinguish several important elements in the policy environment: stagnation in the developed countries and an associated drift towards protectionism, and sustained economic growth and adjustment in the developing countries. Associated with these trends are changes in U.S. trade patterns as developed country products become increasingly substitutable for those made in the United States, while trade between the United States and the developing country evolves along complementary lines. We turn now to consider the major questions outlined above in the light of the features of the policy environment described in this section.

II. Policy Issues

A. Free Trade in an Unfair World?

Throughout the postwar period, the major thrust of U.S. policy has been towards the establishment of a more liberal trade system through multilateral negotiations. To be sure, the U.S. approach has been pragmatic and supportive of discriminatory schemes abroad (such as the European Economic Community) and at home (the various protective measures described above), but these measures have been undertaken in the belief that eventually they would lead to greater liberalization. Increasingly, pressures are mounting in the United States for a change in strategy. The growth in foreign developed countries' productive capabilities implies increasing competitive pressures upon U.S. firms at the upper end of the technological spectrum, while the growth in developing economies entails stronger competitive pressures in labor- and simple capital-intensive products. As competitive forces have become more intense for the United States, producers have been more vocal in questioning the fairness of the system. While exporters complain of the unfair advantages given to foreign producers in competing in foreign markets, producers competing with importers complain of unfair practices by those penetrating the United States. Thus, while protectionist pressures increase in the United States, protectionist practices abroad make them more difficult to resist.

Given the existence of trade agreements, there is great pressure on countries to minimize the transparency of their protectionist actions. This reduces the risk of challenge or retaliation and does less damage to the general liberal system they are committed to. A country such as the United States is at a great disadvantage since it emphasizes the rule of law over that of man and depends on the force of publicity for good governance. The United States is thus more limited in its protectionist practices and generally honors the limitations contained in GATT agreements. Such a situation results in a dilemma for U.S. policymakers. The world appears unfair--which it is. Other countries seem to take greater advantage of this unfairness--which is probably true. However, efforts by the United States to emulate other countries would probably result in no net gain and conceivably yield substantial losses for us and our trading partners.

The most simple policy guidelines for dealing with foreign protectionism are either: (1) to ignore them and follow a policy of free trade, or (2) to match them. However, serious problems are associated with the most simple guidelines. It requires a more complex strategy to counter such practices.

Some economic theorists assert that the laissez faire approach is the correct one. Taking foreign behavior as given, U.S. trade protection hurts the United States. A unilateral reduction in U.S. protection would result in net benefits to the U.S. economy.¹²

Baldwin has articulated the argument for the "laissez faire" approach:

To the extent that there is a uniform element in various government practices, subsidies, preferences, and regulations,

movements in exchange rates and factor prices tend to offset any unfavorable balance of trade effects. Moreover, the differential effects among industries should be regarded in much the same way as the differential consequences of some underlying real factor affecting comparative advantage. The fact that a foreign government's subsidy policies place severe competitive pressures on certain U.S. industries, even after exchange rates changes resulting from the subsidies, is not in principle different from the fact that the existence of lower wages abroad puts severe competitive pressures on particular U.S. industries. If foreign governments want to use their own taxpayer's money to provide us with goods at lower prices than we can provide ourselves, then we should welcome the addition to our living standards.¹³

However, there are those who argue that, particularly in the area of high technology products, because of their government subsidies or protection, foreign producers might enjoy dynamic economies of scale which allow them, eventually, to outcompete U.S. producers denied such advantages. The United States could, in theory, be better off subsidizing its domestic producers and retaining comparative advantage in such products. The laissez faire approach also fails to take account of the political and legal difficulties associated with ignoring foreign "unfair practices." There are legal statutes concerning dumping and subsidies and growing political pressures on the United States to retaliate. This approach also disregards the potential for deterrence inherent in protectionism. Foreign behavior is not independent of U.S. behavior. It is the threat of possible retaliation that prevents other nations with monopoly power in trade from setting an amount of protection that maximizes their gains from trade. A firm commitment not to protect would leave the United States vulnerable to foreign optimal tariffs and unable to use reciprocal reductions in protection as a negotiating device. Finally, while foreign subsidies on exports to the United States may make Americans better off, similar subsidies on goods which compete with American products in third markets may make Americans worse off. We cannot, therefore, be indifferent to such behavior.

The second simple solution, to match whatever subsidies foreigners provide their industries, would be impossible to administer and would simply compound the folly. If foreign subsidies on exports to third markets remain unchanged, an increase in U.S. export subsidies will make the United States worse off. A variant on this solution, one advocated by the Commission of the European Community for use in Europe, would require all governments to harmonize all aids and restraints to domestic economic activity so that the same incentives would apply to all producers. However, this approach would undermine the right of nations to allocate resources as they deem fit.

Thus, in the real world, we are left with the unenviable task of having to make judgments about when and how much to retaliate to counter foreign practices. Since this issue is of major importance for U.S. policymakers, it should command more research attention than it is currently being given. Ultimately, the precise nature of the strategy will require skills much closer to those of the negotiator than the economist. Appropriate models of such behavior may resemble those of game theory more closely than those

of the more conventional theoretical trade literature. However, a sound grasp of the quantitative importance of the various protectionist measures at issue will surely facilitate the negotiator's task.

B. Quantitative Impacts of Trade Distortions

It is extremely difficult to quantify these new forms of protection and even more difficult to obtain quantitative estimates of their effects.¹⁴ The long lists of measures that have been made are a helpful first start, but they cover products with vastly different importance in trade and usually fail to indicate the degree of restraint on trade.¹⁵ There are major conceptual issues regarding the appraisal of the impacts of such measures. In particular, cash outlays may not indicate the appropriate measure of subsidization. There is no uniform method for calculating imputed transfers.¹⁶ In addition, there are inherent biases in the data towards revealing greater protectionist tendencies in open and more juridical systems such as the United States.¹⁷

The opaque nature of the new barriers creates numerous problems. Tariffs are of course quantitative measures that are typically implemented on the basis of legislation; the new forms of protection are hard to measure and are increasingly carried out by executive bodies.¹⁸ Consequently, they are particularly difficult to deal with. On the one hand, there is the danger of exaggerating their extent and importance and thereby being forced into matching them with protective steps of our own. On the other hand, ignoring them could prove equally dangerous, if in fact they proliferated until their impacts on global trade were severe. Once it is decided to deal with these barriers, however, the lack of appropriate measurement presents new obstacles. Relevant data are needed to determine the significance of the removal of such barriers and to define priorities. In the case of tariffs, reciprocal concessions can be roughly gauged, but quantifying the impact of NTB's is much more difficult.

It is possible to find numerous descriptions of the variety of policies that have been taken by foreign governments to encourage investment, regional development, particular industries, scientific research, and technical development and to promote exports.¹⁹ But there are few studies, however, which estimate the importance of these benefits in determining trade performance.²⁰

An excellent data base is available for Germany compiled at the Kiel Institute in West Germany.²¹ It combines quantitative estimates of all forms of subsidization, such as the grant element in low interest loans, tax incentives for various purposes, as well as direct financial transfers on the part of the Federal, state, and local governments.²² Obtaining similar estimates for other nations is an urgent priority. These could then be analyzed to ascertain the actual thrust of policy and its potential effects. The quantification of the impacts of the new trade distortions should be the major objective for trade policy research in the 1980's.

C. U.S. Domestic Adjustment

While Americans once ignored the question of international competitiveness, today they exaggerate its effects. This is because, although its impact has not been as important, international trade has tended to reinforce other sources of change such as the business cycle, technological change, demographic change, and long-run demand shifts in determining U.S. domestic industrial employment patterns. In addition, the producers who are affected may experience particularly adverse adjustment difficulties. Developing country imports have been in sectors where the poorer and less fortunate groups in the United States are relatively heavily employed. Imports of capital-intensive products from developed countries have confronted U.S. domestic sectors in which rapid contraction is particularly difficult and costly because the capital investments are long-lived, workers earn wage premiums that reflect nontransferable benefits (such as seniority, monopoly rents, and the impact of strong unions), and because production occurs in large plants that are important for the economic health of the areas in which they are located.

Even though imports may account for a relatively small share of the market, protection may seem important for the health of the domestic industry. It is not simply that imports make a convenient scapegoat: the potential for substantial entry allows a small quantity of imports to exert a strong downward pressure of prices and profits at the margin.²³ The reinforcing nature of trade and domestic industrial problems suggests that, to be of assistance to U.S. policymakers, studies should not simply measure the marginal contribution of trade, but should also relate the impact of trade to the overall problems facing industries. In particular, industries such as textiles, steel, and automobiles are probably the most prominent sources of adjustment difficulties and the most deserving of individual case studies.

Structural problems are undoubtedly exacerbated by slow growth. However, rapid growth could also confront the U.S. economy with considerable intra-sectoral adjustment problems. In particular, rapid increases in productivity and in the substitution of capital for labor could result in worker displacement. First, policymakers need a sense of the magnitudes of the problems in the economy as a whole and in particular industries and regions. Second, they need an analysis of alternative strategies to facilitate adjustment.

Analytical approaches need to move beyond the simple accounting framework. Short-run models should deal with actual layoffs; long-run models should adopt a general equilibrium approach. Most existing studies of trade employment effects measure a hypothetical notion of "job opportunities lost and gained" rather than actual displacement. Hypothetical job losses have to be converted into actual displacement in order to estimate labor adjustment costs. For example, if imports result in the reduction in the output of a domestic industry, the impact on suppliers might be estimated with an input-output model. Next, reductions in output could be converted into the amount of involuntary layoffs, in a model incorporating data on normal attrition and quit rates. Finally, typical unemployment spells and future earnings paths could be analyzed using data on the demographic and skills characteristics of the workers displaced.

Current U.S. policy aims at enhancing productivity and stimulating capital formation. But what would be the sectoral impact of an increased rate of domestic capital formation or productivity increase? What impact would a rise in capital formation have on U.S. trade patterns?

For answering these questions, a credible general equilibrium simulation model of the U.S. economy is required. Such a model for 36 industrial sectors of the United States has been developed by Dale Jorgenson, and a companion monetary sector has been modeled by Andrew Feltenstein.²⁴ This could be used for simulation purposes. Moreover, since the model includes a monetary sector, the impact of various commercial policy measures in a floating exchange rate system could also be simulated.²⁵ The use of general equilibrium simulation methods would force policymakers to examine the implicit trade-offs made in policies which promote or retard employment in particular sectors.

A second area of study would look more closely at the impact of current U.S. trade policy programs on domestic adjustment. The existing U.S. trade adjustment assistance program fails either to encourage adjustment or to bribe producers to allow free trade. Most program recipients return to their original jobs. Those that do not return fail to take advantage of the job training and job search assistance provisions in the program. Many of the recipients are from steel and automobile industries, both of which currently have trade protection.

In principle, there can be a role for government adjustment policy. In the presence of substantial social adjustment costs, there is a case for moderating the pace of change. While the U.S. import protection procedures appear to be functioning with relative impartiality and fairness, they are not geared toward encouraging adjustment. The impact of protection on adjustment should be studied, and policies which explicitly tie protection to adjustment should be considered.

D. Stimulating Innovation

High technology products are responsible for a large share of exports of all mature industrial countries and play a strategic role in their economic development. This is especially true for the United States. They also play a key role in the development of advanced military components. Theory suggests that resources cannot be efficiently allocated to these industries through market mechanisms since they are characterized by dynamic economies of scale and externalities which prevent pure competition from developing. Governments have intervened with the explanation that existing institutional mechanisms do not equate private to social return. Many government policies and instruments have been utilized. Differences exist between the policies of the European countries, Japan, and the United States. The industrial structure has responded to the policies of governments with strong implications for international trade.²⁶

E. High Technology and U.S. Economic Relations with Japan

The challenge presented to the United States by Japan is seen most sharply in the area of high technology products. Japan continues to devote a much larger share of gross national product (GNP) to investment than does the United States; Japanese business firms support roughly as large an R&D effort in relation to sales as American firms; Japanese educational institutions turn out a larger share of technically trained people, particularly engineers; and Japanese firms have established a deserved reputation for quality and reliability in production that is commercially very powerful. Furthermore, the Japanese Government continues to provide some guidance to Japanese industry as to future areas for development. The guidance is provided through the Ministry of International Trade and Industry (MITI) in the form of their visions of the future. The instrument for its implementation is the selection of national projects that receive government assistance. The history of national plans and of MITI visions indicates that they closely reflect the industrial structure of the United States or, more precisely, the industries and products in which the United States has a strong international competitive position. Thus Japan may constitute a direct challenge to U.S. economic strength.

Three policy options are open to the United States in meeting the Japanese challenge in high technology products. One is to obtain the participation of American companies in Japanese national projects. A second is to obtain access to the Japanese market for exports of high technology products from the United States even during the earliest stages of development in Japan. A third would be to emulate the Japanese approach to high technology development suitably adapted to U.S. circumstances and institutions. Research is needed to evaluate the MITI process, to evaluate the consequences, and to explore the costs and benefits of the three options for meeting the challenge.

In passing we should note two other features of the Japanese economy that merit further research: (1) the allegedly closed nature of the Japanese market, and (2) the behavior of the real value of the yen. As economic relations between Japan and the United States have grown over the years, trade frictions between them have increased as well. In 1968, in 1970-71, in 1977-78, and now in 1981-82, these frictions have reached a politically acute point. While the origins of several of the disputes can be found in the competition provided to American import-competing industries by the evolving Japanese industrial prowess, the most recent dispute is more heavily concerned with the supposed (relatively) closed nature of the Japanese market for manufactures and some agricultural products. Despite the fact that Japan imports (and exports) a remarkably small share of its GNP, some research seems to indicate that the import share is not particularly low for a country of Japan's characteristics. If Japan, contrary to the perceptions of all of its trading partners, does not have a closed market, then the dispute has no solution since there would be no real way for the Japanese to respond to demands for further opening. Thus the degree of openness of the Japanese economy is an issue of great policy relevance.

The openness of the Japanese market can be studied through cross sectional techniques comparing Japan to other countries, adjusting for relative factor availabilities in Japan. The study would be conducted at a disaggregated level so that if a presumed short-fall was estimated, the industry and product would be identified which would guide subsequent research to the causes (trade barriers, keiretsu arrangements, etc.) and possible remedies.

It is also believed that the yen is the most unstable currency of all major industrial countries. Since March 1973, the yen has gone through several periods when it was believed to have been seriously undervalued. Trade frictions with Japan seem to be closely related to the yen's undervaluation. Some observers have accused Japan of manipulating the exchange rate to gain trade advantage. Others have explained the yen's behavior as the result of Japan's particular oil import needs and its rapid adjustment to oil price increases. A study of the yen is desirable to establish the cause of the yen's volatility and what role policy plays in it.

F. Developing Countries

Trade with developing countries is assuming particular importance because these countries constitute the most rapidly growing markets for U.S. products and because the patterns of specialization allow for the upgrading of U.S. production toward sectors with high value added. The mechanism of growth in these nations needs to be understood and cultivated. Research is needed to explore the potentiality of LDC's as markets for and competitors of developed countries. Has the main force of LDC competition already been seen through the performance of the existing newly industrializing countries (NIC's), as suggested by Colin Bradford, or are there many more potential NIC's on the horizon?²⁷ Are all manufacturing industries potentially open to the NIC's or are they confined to industry with particular characteristics? To answer these and similar questions, a broadly based multicountry study of existing and potential NIC's should be undertaken. Analytically, the study could be based on a dynamic Heckscher-Ohlin model. That is, relative factor availability and factor growth could be utilized to explain trade volume, trade structure, and changes in import and export capabilities. Empirically, a data set would be constructed encompassing time series of many advanced developing countries (ADC's) on a consistent basis. The goal would be to link data of factor availability to production and international trade on a disaggregated industry basis.²⁸

The literature has emphasized the problems of developing countries' debts and those problems faced by the developed countries in adjusting to developing countries' exports. Not enough attention, however, has been given to the developing countries' roles as importers. The evidence suggests, in fact, that the United States has been able to sustain its market share in oil-importing developing countries far better than in other global markets.²⁹ From 1973 to 1980, for example, the volume of U.S. manufactured exports to these nations grew at 9.8 percent, a rate even more rapid than that of Japan. In the 1980's, U.S. policymakers require an enhanced understanding of these developments in order to facilitate the growth of exports to these markets. What is the relationship between imports from the United

States and characteristics of the importing country such as income, development strategy, investment rate, exports to the United States, etc.? How effective are U.S. export financing and promotion policies and how do they compare with those of major U.S. competitors?

In addition, the developing countries have become important locations for manufacturing investment, mainly for assembly purposes.³⁰ As yet, we have not experienced a flourishing of direct foreign investment similar to the one that occurred between the developed countries. In the 1970's, for example, U.S. investment in manufacturing in the developed countries grew about as rapidly as manufacturing investment elsewhere. A certain level of income and labor skills may be required before horizontal integration through direct investment can take place. Policies by host countries may also be adversely affecting investment. An appropriate policy response should in this case anticipate the time of maturity for such investments.

A new multilateral round of trade negotiations will be necessary in the 1980's. The GATT is the appropriate institution for them. While negotiations should encompass several old issues, such as a safeguard clause, and some new ones, such as barriers to service trade and trade-distorting performance demands on direct investors, a central focus should also be the integration of the advanced developing countries into the GATT system. There are no structural factors that stand in the way, but there is much concern over its desirability. Research should investigate the economic effects of developing countries on the international trading system to provide the intellectual support for such a negotiation. The first stage would examine the impact of growth of the advanced developing countries on the world trading system and the second stage the reverse impact of trade on the growth of the ADC's.

III. The Brookings Trade Research Program

Real world problems do not conform to neat analytical categories, and policies frequently reflect compromises between a variety of goals. Options that are appropriate for one problem may have adverse ramifications for another. Accordingly, the questions outlined above should be viewed from several perspectives and options for dealing with them weighed in several concrete examples. Our strategy is therefore a crosscutting approach in which general research is supplemented by investigations of specific bilateral relationships and particular global industries.

The Phase II program is depicted in Chart I. The studies, which will culminate with major integrative overviews, are arranged in five columns. Each of the first three columns concentrates on one of the questions; the fourth question is emphasized in East-West trade. Columns IV and V deal with industry studies and bilateral relationships, respectively. In each column the studies are listed in the order in which they are currently planned. There are numerous linkages between the studies: projects such as NTB's, adjustment, and industry studies will contribute papers to the conferences on bilateral issues. The findings and models of the domestic adjustment project will be used by the industry specialists. The projects on NTB's in goods, services, and investment will draw on similar data bases

and employ similar methodologies. The studies of developing countries and domestic adjustment form cumulative sequences. Each project will feed into at least one of the overview studies. These integrative overviews, to be written by Krause and Lawrence in the final year of the program, play a major role in our strategy for ensuring a coherent research program.

The timing of the projects reflects our current projections of when the output will be needed. In the next few years, we see policymakers pre-occupied with sectoral adjustment and bilateral trade problems and laying the groundwork for a new multilateral trade negotiations (MTN) round. Toward the end of Phase II (1986), we see the MTN as starting. The choice of topics for investigation has been strongly affected by our interviews with policymakers. Our planned program covers almost all of the questions listed by policymakers in our interviews as important issues for research.

CHART I. PHASE II: FREE TRADE GOALS IN AN UNFAIR WORLD

COLUMN SEQUENCE	I	II	III	IV	V
1	U.S. Export Competitiveness and Foreign NTB's	DC-LDC Trade	U.S. Industrial Adjustment in a Global Perspective	High Technology	East-West Trade U.S. - Japan
2	Distortions in International Investment Flows	Trade and LDC Development	U.S. Labor Market Adjustment and Trade	Services	U.S. - Mexico
3	Review of the GATT System	Strategies for Integrating LDC's into GATT	Import Controls and Domestic Policies for Adjustment	Automobiles Textiles	U.S. - Europe
4	<u>OVERVIEW STUDY:</u> The Next MTN			<u>OVERVIEW STUDY:</u> Policy Design for Domestic Adjustment	

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NOTES

1. A more detailed consideration of foreign policy issues is contained in several of the background papers prepared by the Brookings Institution as part of Appendix A to the Report on the Phase I Grant of the NSF program. For example, see Lawrence Krause, "U.S. Economic Relations with Japan," "Bilateral Relations between Mexico and the United States," and "U.S.-Canadian Economic Relations"; Edward A. Hewett, "East-West Economic Relations in the 1980's: Important Issues for U.S. Policy"; and Robert Pastor, "The Political Implications of U.S. Trade Policy in the 1980's."
2. For a more complete discussion of the current policymaking environment, see Robert Z. Lawrence, "Growth, Trade and the Global Trading System," and Lawrence Krause, "Commercial Policy on Divergent Trends: Developed and Developing Countries," prepared as background papers for the Brookings Institution Phase I Report.
3. This discussion is based upon Robert Z. Lawrence, "Trends in U.S. Trade Patterns," a background essay prepared for the Brookings Institution Phase I Report.
4. The declining relevance of factor endowments, economies of scale, and even technological know-how are themes that emerge strongly in a comparative study of the machinery exports of Sweden, Germany, and the United States. See Frank Weiss and Frank Wolter, "Machinery in the United States, Sweden, and Germany--An Assessment of Changes in Comparative Advantage," Weltwirtschaftliches Archiv, Band 111 (1975), pp. 282-309.
5. See Raymond Vernon and W.H. Davidson, "Foreign Production of Technology-Intensive Products by U.S.-Based Multinational Enterprises," final report submitted to the National Science Foundation, 1979.
6. See Raymond Vernon, "The Product Cycle Hypothesis in a New International Environment," Oxford Bulletin of Economics and Statistics, Vol. 41 (November 1979), pp. 255-67. A report on an investigation of "reverse" technology transfer (i.e., to the United States) is given in Edwin Mansfield, "International Technology Transfer: Rates, Benefits, Costs, and Public Policy," University of Pennsylvania, 1982 (mimeo).
7. Antonio Aquino, "Intra-Industry Trade and Inter-Industry Specialization as Concurrent Sources of International Trade in Manufactured Goods," Weltwirtschaftliches Archiv, Band 114, Heft 2 (1978), pp. 275-296.
8. In a prominent GATT study, the authors argue that real exchange rates have not had the predicted effects on trade balances, concluding "In general--only by invoking long lags - often of two years or more - between exchange rate change and the initial impact on the trade balance would it be possible to salvage even partially the conventional

view." See Richard Blackhurst and Jan Tumlrir, "Trade Relations Under Flexible Exchange Rates," GATT Studies in International Trade, No. 8. Geneva: GATT, 1980.

9. See Michael C. Deppler and Duncan M. Ripley, "The World Trade Model: Merchandise Trade," International Monetary Fund, Staff Papers, Vol. 25 (March 1978), pp. 147-206; Rudiger Dornbusch and Paul Krugman, "Flexible Exchange Rates in the Short Run," Brookings Papers on Economic Activity, 1976:3; Helen B. Junz and Rudolf R. Rhomberg, "Price Competitiveness in Export Trade among Industrial Countries," American Economic Review, Vol. 63 (May 1973), pp. 412-18; Stephen P. Magee, "Prices, Incomes and Foreign Trade," in Peter Kenen, ed., International Trade and Finance: Frontiers for Research, London: Cambridge University Press, 1975; Mordechai Kreinen, "The Effect of Exchange Rate Changes on the Prices and Volume of Foreign Trade," International Monetary Fund, Staff Papers, Vol. 24 (July 1977); Irving B. Kravis, Robert E. Lipsey, and Dennis M. Bushe, "Prices and Market Share in International Machinery Trade," National Bureau of Economic Research, Working Paper No. 521, 1980; and Raymond Fair, "Estimated Effects of Relative Prices on Trade Shares," National Bureau of Economic Research, Working Paper No. 696, June 1981.
10. William J. Abernathy, Kim B. Clark, and Alan Kantrow, "The New Industrial Competition," Harvard Business Review, Vol. 59 (September-October 1981).
11. For an ex post appraisal of U.S. competitiveness, see Michael Aho et al. "Assessing the Changing Structure of U.S. Trade in Manufactured Goods: An Analysis and Comparison of Various Indicators of Comparative Advantage and Competitiveness," background analytic paper in U.S. Department of Labor, Office of Foreign Economic Research, Report of the President on U.S. Competitiveness, Washington, D.C.: U.S. Government Printing Office, September 1980. See also Beatrice N. Vaccara and Patrick H. MacAuley, Evaluating the Economics Review, Summer 1980.
12. Mutti analyzed the benefits of unilateral tariff reductions in chemicals, iron and steel, machine tools, electrical machinery, and motor vehicles. See John H. Mutti, "Aspects of Unilateral Trade Policy and Factor Adjustment Costs," Review of Economics and Statistics, Vol. 60 (1978), pp. 102-10. He concludes that "only in the most pessimistic cases will factor adjustment costs from tariff removal lead to a loss in welfare." He also argues, interestingly, that a phased reduction in tariffs may be preferable to an instant and complete reduction.
13. See Robert Baldwin, "Protectionist Pressures in the United States," in Ryan C. Amacher, Gottfried Harberler, and Thomas D. Willett, eds., Challenges to a Liberal Economic Order, Washington, D.C.: American Enterprise Institute, 1979, p. 236. For a discussion of this issue see also: Richard N. Cooper, "U.S. Policies and Practices on Subsidies in International Trade," in Steven J. Warnecke, ed., International Trade and Industrial Policies, New York: Holmes and Meier, 1978, pp. 107-22. Cooper suggests that "perhaps we should not worry so much about government subsidies to economic activity . . . provided [they]

are introduced sufficiently gradually so that they do not impose acute adjustment costs on economic activities outside the country in question" (p. 120).

14. Analyses of NTB's can be found in Robert Baldwin, Nontariff Distortions of International Trade, Washington, D.C.: The Brookings Institution, 1970. An attempt to catalog these systematically can be found in I. Walter, "Nontariff Barriers and the Free-Trade Option," Banca Nazionale del Lavoro Quarterly Review, March 1969; and in V. Roningen and A. Yeats, "Nontariff Distortions of International Trade: Some Preliminary Evidence," Weltwirtschaftliches Archiv, Band 112 (1976).
15. The pioneering work on services trade barriers undertaken by the Office of the U.S. Trade Representative (USTR) is an example.
16. For a discussion of these conceptual difficulties, see Seamus O'Cleireacain, "Measuring the International Effects of Subsidies," in Warnecke, ed., op. cit. See also Alan Prest, How Much Subsidy?, London: Institute for Economic Affairs, 1975.
17. For example, in the European Economic Community (EEC) "the overwhelming majority of cases are resolved when exporters offer an 'undertaking.' Since there are no records of the precise nature of the undertaking ..."; Douglas R. Nelson, "The Political Structure of the New Protectionism," World Bank, Staff Working Paper No. 471, July 1981, p. 31.
18. See J.M. Finger, H.K. Hall, and D.R. Nelson, "The Political Economy of Administered Protection," American Economic Review, Vol. 72:3 (June 1982), pp. 452-466. Finger, Hall, and Nelson have also made an important start in studying the nature of administered protectionism.
19. In the case of export credits, see, for example, "Export Stimulation Programs in the Major Industrial Countries: The United States and Eight Major Competitors," prepared for the Committee on International Relations, U.S. House of Representatives, by the Foreign Affairs and National Defense Divisions, Congressional Research Service, Library of Congress, October 6, 1978; H.L. Weisberg and Charles Rauch, "A Comparative Study of Export Incentives in the United States, France, the United Kingdom, Germany and Japan," United States Chamber of Commerce, International Division, 1979; "Export Credit Facilities: An International Comparison," Midland Bank Review, Autumn 1980.
20. In the case of export credits, an exception is provided by the analysis of DeRosa and Nye. See Dean A. DeRosa and William W. Nye, "Additionality in the Activities of the Export-Import Bank of the United States," U.S. Department of the Treasury (mimeo), n.d.
21. See Karl Heinz Juttemeier and Konrad Lammers, "Subvention in der Bundesrepublik Deutschland," Kiel Discussion Papers, 63/64, (1979).
22. Quoted in H.H. Glismann and F.D. Weiss, "On the Political Economy of Protection in Germany," World Bank, Staff Working Paper No. 427, October 1980.

23. See, for example, Dean A. DeRosa and Morris Goldstein, "Import Discipline in the U.S. Manufacturing Sector," International Monetary Fund, Staff Papers, Vol. 28, No. 3 (September 1981), pp. 600-634.
24. See, for example, Dale W. Jorgenson, "Econometric Methods for Applied General Equilibrium Modelling," paper presented to the Conference on Applied General Equilibrium, San Diego, California, August 24-28, 1981. See also Andrew Feltenstein, "A General Equilibrium Approach to the Analysis of Monetary and Fiscal Policies," International Monetary Fund Staff Papers, Vol. 28 (December 1981).
25. An operational version of this model would meet one of the major topics suggested for research by Aho and Bayard. C. Michael Aho and Thomas O. Bayard, "Issues and Options for U.S. Trade Policy: A Washington Perspective," paper presented to the National Bureau of Economic Research, International Studies Meeting, October 29-30, 1981.
26. For a detailed analysis of U.S. trade in high technology products, see C. Michael Aho and Howard F. Rosen, "Trends in Technology-Intensive Trade," background analytic paper in the Report of the President on U.S. Competitiveness; Jack Baranson and Harald B. Malmgren, Technology and Trade Policy: Issues and an Agenda for Action, Washington, D.C., mimeo, October 1981; and Sumiye Okubo, "The Impact of Technology Transfer on the Competitiveness of U.S. Producers," background analytic paper in the Report of the President on U.S. Competitiveness.
27. See Colin Bradford, "ADCs' Manufactured Export Growth and OECD Adjustment," in Wontack Hong and Lawrence B. Krause, eds., Trade and Growth of the Advanced Developing Countries in the Pacific Basin, Honolulu: University of Hawaii Press for Korea Development Institute, 1981.
28. Part of the data base already exists at the Brookings Institution and additional work is scheduled under a separate project.
29. This point is documented more fully in Lawrence Krause, U.S. Economic Policy for ASEAN: Meeting the Japanese Challenge, Washington, D.C.: The Brookings Institution, 1982.
30. This phenomenon has been intensively studied by Flamm and Grunwald in their newly completed manuscript; see Kenneth Flamm and Joseph Grunwald, North-South Intra-Industry Trade, The Brookings Institution, 1982 (mimeo).

FINDINGS AND CONCLUSIONS OF THE PHASE I RESEARCH
EFFORT OF THE UNIVERSITY OF MICHIGAN

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I. Introduction and Summary

The Michigan Phase I effort involved a series of coordinated projects dealing with the refinement and policy applications of the Michigan model of world production and trade, a pilot study of a computer-based system for monitoring U.S. trade policy actions, analysis of the effects and problems arising in the implementation of the Tokyo Round agreements, development of a microeconomic data base for Japan and analysis of Japan's trade in technology services, analysis of U.S. export-control and credit policies in East-West economic relations, and study of the politics and public opinion aspects of U.S. trade policies.

Studies based upon the Michigan model concluded that: domestic taxes/subsidies have a significantly greater allocative impact across sectors than tariffs, changes in real exchange rates may result in sizable short-run movements in sectoral production and employment in the United States and elsewhere, and removal of post-Tokyo Round tariffs would not be uniformly beneficial to all countries, especially if existing nontariff barriers (NTB's) remained intact. The pilot study of a trade-policy monitoring system suggested genuine problems in the availability and comparability of data and a somewhat limited usefulness of existing monitoring systems in the Office of the U.S. Trade Representative (USTR) and in the Department of Commerce. Work on the implementation of the Tokyo Round agreements is presently in progress. The microeconomic data base for Japan is now operational. Use of these data disclosed that Japan had shifted from a large deficit position in its trade in technology services in the early 1970's to a position now comparable to other mature economies. Work on East-West economic relations and the public opinion aspects of U.S. trade policies mainly involved conceptual issues and assembling of data.

Much of the Phase I effort involved contacts with the policy community to obtain feedback on ongoing research and especially to identify the important issues that the United States would confront during the 1980's. These issues provided the basis for the research agenda set out in the Michigan Phase II proposal.

II. Phase I Projects and Objectives

In Phase I, the Michigan group was engaged in a series of coordinated projects involving: further elaboration and policy application of the Michigan disaggregated model of world production and trade; potentialities for design of a system monitoring U.S. trade policy actions; analysis of the early stages of implementation of the Tokyo Round agreements; development of an economic data base for Japan and analysis of Japan's trade in technological services; evaluation of U.S. export controls and credit

policies in East-West economic relations; and policies and perceptions of U.S. adaptation to changes in trade.

Our objectives in Phase I were to build upon ongoing research in trade policy at Michigan and to develop new lines of research involving the major issues of trade policy facing the United States during the 1980's. Our research agenda was designed accordingly to: (1) make the Michigan model even more useful and flexible for analyzing actual and potential changes in multilateral and national trade policies; (2) identify the data inputs needed to monitor and evaluate U.S. trade actions; (3) evaluate the ongoing process and impact of the Tokyo Round agreements; (4) permit more careful study of Japan's domestic and international economic performance; (5) clarify the criteria and consequences of U.S. economic policies vis-a-vis the Soviet bloc; and (6) study the interactions among policymakers, interest groups, and the public on matters of international trade and trade policies.

We had substantial and continuing contacts with policy officials in the course of Phase I. Many suggestions were incorporated into the individual projects, and more importantly, we were able through these contacts to identify and integrate the issues that guided our proposed Phase II agenda for research. In the following section, there is a discussion of what was accomplished in Phase I and the relationship to the research agenda proposed for Phase II.

III. Phase I Efforts and Relations To Phase II

A. Extensions of the Michigan Model of World Production and Trade and Applications to Policy

In Phase I, Alan Deardorff and Robert Stern sought to make the Michigan model more useful and flexible for policy analysis. This was accomplished by improving the data base, investigating some important conceptual extensions, and applying the model to additional and significant policy issues.

The data base of the model was improved by incorporating various kinds of domestic taxes by sector for the United States, Japan, and the United Kingdom. This included taxes on capital, labor, and final output. The effects of these taxes on the structure of protection in the countries noted were then analyzed and compared with each country's pre-Tokyo Round tariffs. The results are reported in Deardorff and Stern (1982b). Due to time and resource limitations, Deardorff and Stern had hitherto not included the input-output structure of each of the 34 countries in the model. They had been using the 1972 U.S. input-output table to characterize industry relations in all the other major industrialized countries and the 1970 Brazilian table for all of the major developing countries. In the research on the effects of taxes, they incorporated the 1970 input-output tables for Japan and the United Kingdom into the data base of the model. Tables for many of the other countries are presently available and may be adapted for use in the model on a piecemeal basis in the future, depending on the importance of the policy issues involved. Finally, Deardorff and Stern completed a survey of the

literature on the theory and measurement of NTB's and are in the process of synthesizing the results. In Deardorff (1982), a framework is presented as the basis for transforming data on NTB's into estimates of their economic impact. The ultimate purpose is to improve the representation of NTB's in the Michigan model and thereby to analyze the economic effects of reducing or eliminating various NTB's in the United States, other major industrialized countries, and the major developing countries.

Three conceptual extensions of the model were pursued in Phase I: an explicit macroeconomic sector to be linked to the microeconomic relationships in the model; adaptation of the model to permit differentiation of imports in demand by country of origin; and construction of a disaggregated input-output submodel for the United States. Because the Michigan model was originally focused on microeconomic issues, its macroeconomic content was purposely circumscribed. Thus, the model could not deal satisfactorily with a variety of macroeconomic issues and questions of policy. Some of the important theoretical aspects of introducing macroeconomic relationships into the model have been explored in Riedl (1982), and some progress was made especially regarding data requirements, parameters, and reprogramming of the model. With a new version of the model, it will be possible to investigate the macro-micro effects of changes in exchange rates and monetary and fiscal policies in the United States and other major industrialized countries. These are issues of current importance and are certain to remain so during the 1980's because they impact so greatly on domestic prices, employment, and economic welfare.

In the present, operational version of the Michigan model, all imported goods in a sector are treated as homogeneous irrespective of country of origin, though a distinction is drawn between imported goods and those produced in the home market, and between goods produced for export and for home use. This ignores the pervasive differentiation of products that exists in international trade. While this issue was not of great significance in applications of the model to trade liberalization, it proved to be important in analyzing the sectoral impacts of changes in exchange rates among the United States, the European Economic Community (EEC), and Japan. In particular, Deardorff and Stern found that if the U.S. dollar were to appreciate and the EEC currencies to depreciate, there would be a very large increase in the net exports of the EEC compared to the United States because of the assumed high degree of substitution between each region's exports in the world markets. Thus, in investigating the sectoral impacts of exchange-rate changes in Deardorff and Stern (1982d), an ad hoc adjustment was made to dampen each region's export-supply response. In order to analyze such issues more correctly, an essentially new model was needed. Such a model has been developed by Brown (1982), and it is hoped to use this model to analyze especially the differential impacts of changes in exchange rates and preferential arrangements. This latter application of the model will be relevant to whether the Generalized System of Preferences (GSP) should be revised or possibly eliminated when it comes up for renewal in the United States at the end of 1984.

The final conceptual issue investigated in Phase I was the feasibility of constructing a disaggregated submodel for the United States that could be used to break down the results from the more aggregated country model into more interesting detail. It was concluded that the conceptual issues involved in such an extension were relatively straightforward. The main effort then was actually to implement the submodel, using the most recent (1972) disaggregated input-output model and data for the United States. Time and resources precluded doing this work in Phase I, and it was thus proposed for Phase II. In this connection, it was further planned to introduce employment data by occupation, industry, and region from the 1980 U.S. census for use in the model so as to permit much greater detail than previously in analyzing changes in trade and related policies.

Turning now to policy applications, Deardorff and Stern used the Michigan model during Phase I to analyze: the effects of domestic taxes/ subsidies on the structure of protection in the United States, Japan, and the United Kingdom; the sectoral impact of exchange-rate changes; and the economic effects of the Tokyo Round.

The analysis of the effects of domestic taxes/subsidies on the structure of protection disclosed that these measures have a significantly greater impact than tariffs. This suggests that issues of domestic taxes/subsidies, which heretofore have been considered only tangentially in trade policy discussions, should be given a prominent place on the trade policy agenda in the future. This is reinforced by the increasing attention directed to measures of industrial policy that have an important impact on resource allocation and trade. It was proposed therefore to pursue this line of research further in Phase II, using the extended version of the Michigan model that incorporated micro-macro relations and introducing more recent data for the United States and other major industrialized countries.

The point about the importance of domestic taxes/subsidies applies equally to changes in exchange rates and domestic macroeconomic policies. In Deardorff and Stern (1982c), a series of experiments was performed analyzing the effects of exchange-rate changes by sector and country. These experiments indicated the fraction by which home-sector prices might change due to given exchange-rate movements and how these changes in prices differ between tradable and nontradable sectors, under conditions of fixed and flexible wages. Two alternative measures of real exchange rates were also reported, taking into account domestic and world prices and the prices of nontradables. These calculations are useful because they indicate the competitive effects between countries and the sectoral effects within countries resulting from changes in exchange rates. Finally, some results were given for the cross-country price and real exchange-rate effects associated with exchange-rate changes. These show the impacts that exchange-rate changes in a major country may have on its trading partners.

Exchange-rate changes were analyzed further in Deardorff and Stern (1982d). Several adaptations of the model were made for this purpose, chiefly to aggregate countries into six major country/region groupings and to introduce various damping and elasticity coefficients in order to

analyze short-run dynamic adjustments. The sustained appreciation of the U.S. dollar that occurred in 1980-81 was then analyzed using this version of the model. The results suggested a noticeable decline in U.S. domestic prices, a substantial decline in the balance on merchandise trade, and a reduction in employment, especially in manufacturing sectors, of a half-million man-years or more by the end of 12 quarters. Changes of this magnitude must be disruptive domestically especially when the economy is already in recession. The same is true for the possible sectoral impacts of changes in monetary and fiscal policies. It was proposed in Phase II accordingly, once the Michigan model had been modified to differentiate imports by country of origin and incorporate macro-micro interactions, to undertake more meaningful analysis of both changes in exchange rates and domestic macroeconomic policies.

The economic effects of the Tokyo Round were analyzed in Deardorff and Stern (1982a). This was an extension of the analysis done under the auspices of the Senate Finance Committee in 1979, using a smaller version of the Michigan model. As well as expanding the model to include the 16 major developing countries, it was also adapted conceptually to stabilize aggregate employment by varying expenditure. This focused attention more explicitly on sectoral effects of the negotiated reductions in tariffs and NTB's. In Phase II, Deardorff and Stern proposed to explore further the effects of the Tokyo Round on the structure of protection and also analyze the economic effects of complete elimination of the tariffs that still remain after the Tokyo Round. Finally, as mentioned above, Deardorff and Stern planned to improve the representation of NTB's in the model so as to permit more complete analysis of the effects of liberalizing both tariffs and NTB's. This would then make it possible to examine tradeoffs in liberalization by sector (e.g., agriculture vs. manufactures) and by country/region (industrialized vs. less-developed countries). Such issues will surely be on the agenda in future trade policy discussions and negotiations, so that quantitative analysis of various options would be timely and useful.

Two other pieces of research completed in Phase I are worth noting briefly. First, Stern (1982) prepared a comment on the use of linear programming (LP) and computable general equilibrium (CGE) models for trade policy research. He suggested that LP models were more appropriate for individual sectoral rather than economy-wide applications. While CGE models are useful for analyzing multilateral trade liberalization, as in the Tokyo Round, these models are currently less well suited than the Michigan model to deal with NTB's, trade in services, disequilibrium effects, and macro-micro interactions. Second, Stern, Deardorff, and Shiells (1982) provided preliminary estimates of elasticities of substitution between U.S. imports and home goods for selected three-digit Standard Industrial Classification (SIC) industries. These estimates are now being refined and will be used in the Michigan model to replace the parameters based upon "best-guess" estimates from the literature.

B. A System for Monitoring U.S. Trade Policy Actions

It was proposed in Phase I to explore the design of a computer-based procedure to monitor U.S. trade policy actions. The objective was to identify the important economic and legal issues posed by these actions and to improve the capabilities especially for analyzing the likely economic effects involved. This effort was undertaken by Robert Stern and John Jackson, with the assistance of Paul Falon.

We began by familiarizing ourselves with the Trade Actions Monitoring System (TAMS) that is currently operational under the direction of Barry Goldberg of USTR. We also reviewed the effort in progress to monitor foreign NTB's at the Office of Trade Data and Analysis of the Commerce Department, under the direction of Donald Weinig. Discussions of these systems were arranged by Professor Stern in October-November 1981 at the two agencies. In addition, Professor Stern discussed the issues involved with William Barreda of the Treasury Department and John Suomela of the International Trade Commission (ITC) at the same time.

Rather than launching into a detailed project, the planning period in Phase I was used for a pilot study. First, an information format was designed that contained items of economic and legal importance that were relevant to any trade actions. The items were selected with the object of tracking as they occurred, and of including enough economic data to assess the significance of an action and to provide inputs into analysis of the consequences of alternative policies for output, employment, prices, and economic welfare. Further, items were included on political aspects of each action to permit analysis of how these factors have influenced decisions and the disposition of cases.

We selected 16 cases from the TAMS, covering actions under different provisions of the Trade Act and at different stages of adjudication. The procedure followed was to record relevant information for each action on the information sheets, using the TAMS, the Tariff Schedule of the United States: Annotated, the International Trade Reporter's U.S. Import Weekly, the Federal Register, and available ITC publications as sources. Once this effort was underway, we soon found serious problems in the availability, completeness, and homogeneity of the economic data especially. We therefore decided to evaluate the relative availability of each item of data and in the process to refine our categories to make them potentially more useful.

The detailed results of our pilot study suggested genuine problems in trying to develop a monitoring system that could provide the basis for evaluation of alternative policy actions. At a minimum, one needs data on domestic production, trade, prices, and employment in order to make partial equilibrium calculations of welfare effects of different actions. Further, if it was desired to analyze ex post the economic and political factors associated with particular actions, a special effort would be required to assemble the requisite information from the existing documents.

The existing TAMS and Commerce Department systems are useful insofar as they permit tracking of particular actions and the compilation of complaints about foreign NTB's. However, as presently designed, the TAMS does not contain enough economic information to permit systematic analysis and evaluation. The Commerce Department's NTB analysis system potentially, at least, lends itself to evaluation. But this system covers only foreign NTB's, and it remains to be seen how and whether it can be used effectively. It should be noted, furthermore, that there are many significant import actions that are not currently being systematically monitored and evaluated. These include actions involving agricultural products, restrictions on imports of textiles and wearing apparel under the Multifibers Arrangement, the trigger-price system affecting steel imports, and existing orderly marketing agreements or voluntary export restraints affecting a variety of imported goods.

Given the limited funds at our disposal and competing demands on our time, we decided against proposing the continuation of this effort in Phase II. We reached this conclusion with some regret since we remain convinced that a genuine need exists for a monitoring system that contains sufficient economic data to at least permit welfare calculations. This might be possible by building upon the TAMS. But even here, as noted, it would be necessary to expand the TAMS to include many important trade actions that currently lie outside the formal provisions of the Trade Act.

C. Implementation of the Tokyo Round Agreements

Robert Stern and John Jackson began in Phase I to evaluate the early stages of implementation of the NTB codes negotiated in the Tokyo Round. The objective was to identify what has been accomplished in the first two years of implementation and the important problems and issues that are likely to arise in the years to come.

During Phase I, Professor Stern assembled various materials concerning the important trade policy actions undertaken in the United States, the EEC, and Japan since 1980 that were relevant to the various NTB codes. Stern received a Fulbright research grant and spent May and June 1982 in Brussels and Geneva gathering additional information at the EEC and General Agreement on Tariffs and Trade (GATT) offices and meeting with officials in these organizations who were knowledgeable concerning the implementation process and its effects. This research, which is still in progress, will focus especially on the consequences of the actions to date for production, trade, employment, prices, and economic welfare in the countries involved. Depending on the form and availability of information, it may be possible as well to assess the various actions using the Michigan model of world production and trade.

Professor Jackson was engaged during Phase I in a collaborative project with colleagues from Brussels and Tokyo dealing with legal problems of implementing the results of the Tokyo Round in the United States, the EEC, and Japan. The purpose of this research was to monitor the legal and constitutional processes followed in each country/region in implementing the agreements and to examine the implications of future agreements that may be negotiated. Professor Jackson is also studying how the GATT mechanism has evolved

in dealing with the codes. He has compiled information on disputes entered on each code, analyzing how the various committees of signatories work, how issues of interpretation are resolved, and problems that developing countries have had in coping with administrative procedures within GATT. Some preliminary findings were reported at the Institute for International Economics conference on "Trade Policies in the Eighties" in Washington in June 1982.

D. Economic Data Base for Japan; Japan's Trade in Technological Services

We focused part of our research effort in Phase I on Japan due to the obvious importance of international trade and investment in United States-Japan economic relations. Policy analysis of Japan-specific problems pertinent to the United States has been greatly handicapped by the lack of appropriate quantitative information. This lack is most severe at the micro level, where so many important issues have arisen. Even casual reflection on past and present United States-Japanese disputes on textiles, steel, televisions, automobiles, and semiconductors will bear this out. Further, there are many issues in understanding Japanese methods of finance, labor market practices, government capital rationing, subsidies to R&D, trading company practices, collusive behavior, technological development and transfer, etc., that can be best examined at the firm level.

In this light, Gary Saxonhouse began in Phase I to coordinate and assemble a wide variety of Japanese micro data. The University of Michigan has been designated by the Japanese Government as the sole U.S. depository for a wide variety of Japanese data materials. We receive in the Department of Economics on a regular basis more than 300 serials containing a great variety of quantitative information on the Japanese economy. One of the most important is the Yuka Shoken Hokousho Soran, which is the Japanese equivalent of the U.S. company 10-K reports that are submitted periodically to the Securities and Exchange Commission. This particular serial is currently available in the United States only at the University of Michigan. During Phase I, we completed all the necessary translation of documentation and editing so that the data can be readily accessed in machine-readable form at the Michigan Computing Center. The information includes semiannual data for 1963-81 on 347 real and financial variables for the 2,832 firms whose equities are traded on the Tokyo, Nagoya, and Osaka stock exchanges. This includes virtually all major Japanese firms and many significant smaller firms as well. There is little question that these data constitute a vital source of policy-relevant material that may be extremely useful to U.S. Government researchers and policymakers. A detailed users' manual has been created for those who may wish to tap into the data bank. In addition to what we now have on line, we have been cataloging many of the remaining serials that are arriving as both hard-copies and tapes. A comprehensive, annotated listing of the available materials will be made available by the end of calendar year 1982.

During Phase I, Professor Saxonhouse used some of the aforementioned data to analyze the determinants of Japan's trade in technology services. His preliminary results indicated that in the early 1970's the structure and level of Japan's deficit in technology trade were unusual and large by

international standards. But, more recently, there has been evidence of dramatic changes so that Japan now appears to participate in the international sharing of technology in a fashion similar to other mature economies. Future research plans involve investigation of the implications for technology trade of the significant increases in R&D expenditures in Japan in the 1970's and analysis of a breakdown of the data on R&D personnel.

Other important issues in United States-Japan relations that can be investigated with the rich source of microeconomic data now available include: whether Japanese imports of manufactures are low by international standards; the effects of Japanese Government-sponsored inter-firm cooperative R&D programs; the effects of government incentives to R&D and the structure of trade; United States-Japanese antitrust policies; the role of Japanese trading companies and implications for the United States; and United States-Japanese comparative advantage in financial services.

E. U.S. Export-Control and Credit Policies in East-West Economic Relations

In the latter stages of our Phase I effort, Morris Bornstein prepared a research design for analyzing U.S. export control and credit policies in East-West economic relations. He assembled and reviewed a large body of materials, including statistical data, reports of U.S. Government executive branch agencies, congressional hearings and studies, and information on policies of the West European and Japanese Governments. These materials were analyzed to identify the most important, difficult, and persistent issues in U.S. policies regarding trade and credit relations with the Soviet bloc. The focus was especially on the policy differences between the United States and its major competitors in Western Europe and Japan and among different agencies in the U.S. Government.

Bornstein's proposed agenda for research in Phase II included the following questions involving the criteria for and evaluation of U.S. restrictions on exports of goods and technology: (1) the extent to which U.S. exports might be restricted on "foreign policy" rather than "national security" grounds; (2) whether restrictions based on national security should consider not only direct military uses but also the effects on the "industrial base," the general "economic potential of the U.S.S.R.," and diversion between military and civilian uses; (3) whether export controls should focus on technologies and systems or on end products; (4) whether export controls imposed by the United States and other Western countries should distinguish among individual Eastern countries and how one can insure against diversion of goods from one restricted Eastern country to another; (5) how U.S. export licensing can be improved by establishing clearer and more stable evaluation criteria and speedier processing of applications; and (6) what commodities and amounts might be included in future U.S.-Soviet bilateral grain agreements and what assurances might the United States give concerning restrictions imposed for foreign policy reasons on sales above minimum levels.

Bornstein planned subsequently to examine the national security and foreign policy rationales for limiting export credits, and ways in which

the United States might narrow the differences between it and Western Europe and Japan concerning the terms of officially supported credits to Eastern countries, including the maximum credit share in an export contract, interest rates, maturity, and the percentage of the borrower's local costs. His ultimate objective was to suggest alternative policies that the United States and other Western countries might follow in dealing with both export and credit restrictions involving trade in goods and technologies with the East.

F. Policies and Perceptions of U.S. Adaptation to Changes in Trade

Harold Jacobson initiated during Phase I a study of the political and economic determinants of U.S. trade policies, their dissemination nationally, and changing public attitudes. The object was to enhance understanding of interactions among public opinion, major interest groups, and policymakers in the United States. Most of the effort in Phase I explored these linkages conceptually and assembled data from public-opinion surveys, including detailed demographic information on the respondents, results of national election studies, U.S. trade flows, and the pronouncements of government officials and opinion leaders concerning U.S. trade and related issues of policy.

Jacobson proposed in Phase II to finish assembling data and then to analyze the following questions: (1) Will sharp changes in economic variables have a greater impact on the policy process than more gradual changes, even when the latter are ultimately larger? (2) Are opinion leaders more likely than policymakers to call attention to changes in economic variables? (3) Is policy changed more often due to elections than due to policymakers changing their views? (4) Will changes in public opinion on trade issues have a greater impact in presidential election years than in congressional election years? (5) Are protectionist pressures related to domestic economic conditions and/or to demographic characteristics of respondents?

Jacobson also planned in-depth interviews with policymakers and leaders of major interest groups to learn their perceptions of public attitudes and how constraining these attitudes may be on their decisions. Further, he proposed to determine if there are differences in the understanding and perceived importance of economic variables among these groups.

IV. Interactions with U.S. Policy Community

During Phase I, the Michigan group had extensive contacts with the policy community relating to ongoing research and especially to identifying the important policy issues that formed the basis for the Phase II proposal. These contacts involved frequent telephone communications with officials and staff researchers dealing with substantive policy issues, data needs, and advice on research being done within government. There were numerous direct contacts as well. These included meetings and presentations in Washington conducted by Professor Stern in October-November 1981, a one-day meeting on the forthcoming GATT Ministerial meeting with trade policy officials in Ann Arbor in December 1981, another series of meetings and presentations in Washington in March 1982, and a workshop on United States-Canadian

economic relations held in Ann Arbor in April 1982. These various contacts were an integral part of the Phase I effort, and they were of central importance in shaping the research agenda proposed in Phase II, which is indicated in the following section.

V. Proposed Agenda for Phase II

Our research proposal in Phase II was intended to provide background and guidance on the issues that we considered to be the most likely and/or desirable subjects of future trade policy negotiations and discussions involving the United States and other governments. For analytical purposes, we divided the issues along multilateral, bilateral, and sectoral lines. Recognizing that this classification was not mutually exclusive, the mode for integrating the various efforts was to consider how the particular issues affected the U.S. economy and how policies could best promote U.S. interests and welfare.

The specific issues identified and their principal investigators are as follows:

- (1) Economic, legal, and political aspects of trade policies
(a) analysis of the economic and legal impacts and problems in the early stages of implementation of the NTB codes negotiated in the Tokyo Round (Robert Stern and John Jackson); (b) trade policy and public opinion (Harold Jacobson); (c) the effects of the Tokyo Round on the structure of protection in the United States and other industrialized countries (Alan Deardorff and Robert Stern).
- (2) Issues and alternatives in possible future multilateral negotiations
(a) analysis of the economic effects of further liberalization of tariffs and NTB's on merchandise trade in the major industrialized countries (Alan Deardorff and Robert Stern); (b) analysis of the economic effects of trade and exchange-regime liberalization in the major developing countries (Alan Deardorff and Robert Stern); (c) adaptation of the GATT to deal with trade barriers in services, investment-performance requirements, the trade and employment impacts of changes in exchange rates and monetary and fiscal policies, and differences in domestic taxes and subsidies, including measures of industrial policy (Alan Deardorff, Robert Stern, John Jackson, Gary Saxonhouse, and W. James Adams); (d) analysis of extending the Generalized System of Preferences (GSP) (Alan Deardorff and Robert Stern).
- (3) Issues in U.S. bilateral relations with major trading partners
(a) United States-Japan relations: analysis of the share of manufactures in Japan's imports; trade in technology services; impact of Japanese Government-sponsored R&D on the structure of trade; United States-Japanese antitrust policies; the role of Japanese trading companies; and trade barriers in financial services (Gary Saxonhouse); (b) United States-Canadian relations: Fall 1983 workshop on United States-Canadian trade and related policy issues; workshop to be held also in subsequent years, with topics to be designated (Robert Stern, selected University of Western Ontario faculty, and others); (c) United States-Mexican relations: nature and effects of

the movement of labor between Mexico and the United States (Susan Ranney); (d) United States-European Economic Commission relations: subsidy issues in public sector enterprise, especially automobiles and steel (W. James Adams); (e) United States-Soviet bloc relations: U.S. export control and credit policies in East-West economic relations (Morris Bornstein).

(4) U.S. sectoral issues

(a) trade, investment, and profitability in the automobile industry (Robert Stern, Richard Porter, Susan Ranney, and W. James Adams); (b) trade and investment in high-technology goods and services (Gary Saxonhouse).

VI. Reflections on Our Phase I Efforts

Our concerns in Phase I were to develop a cohesive working group of academic specialists at Michigan that could bring their joint expertise to bear on important trade policy issues in ways that would be useful to the policy community. Most members of our group had previously been actively involved in the analysis and implementation of trade policy. Phase I provided an opportunity to extend and expand this involvement via the Michigan model of world production and trade, the development of new data systems and data banks that could be directed to policy-relevant investigations, analysis of the ongoing process of implementing policy, and the fostering of contacts with the working staffs of the U.S. Government agencies that dealt with the many different facets of trade policy.

Our accomplishments in Phase I and the research agenda proposed for Phase II represented a blending of our analytic and modeling skills with what we perceived from our contacts with policymakers to be the most pressing issues of concern over the next several years. At the same time, we anticipated a fruitful and flexible interaction with the policy community that would result ultimately in more effective evaluation of existing policies and alternatives and the identification of new initiatives. Although we were an "also-ran" in the NSF competition, we are nonetheless confident that we have much to contribute to the future discourse on trade policy.

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PROCEEDINGS OF THE SESSION ON U.S. POLICIES
IN RESPONSE TO GROWING INTERNATIONAL TRADE COMPETITIVENESS

INTRODUCTORY REMARKS OF CAROLE E. KITTI, MODERATOR

I would like to welcome everyone here to the second day of NSF's Colloquium on International Economic Policy Research. I'm Carole Kitti from the National Science Foundation's Division of Policy Research and Analysis, which is sponsoring this research program.

The purpose of this colloquium is to present the findings from the first phase of NSF's research program on international economic policy. Today's session reports on the topic "U.S. Policies in Response to Growing International Trade Competitiveness."

For those of you who were unable to attend yesterday's session, I would like to give a little background on our program.

Over the past two years or so, we have been designing an experimental research program to address important issues in international economic policy. The intent of NSF's program is to stimulate a small number of research groups to look at important issues in international economic policy on an integrated and coordinated basis from a longer term perspective. Researchers in these groups are to conduct high quality, policy-relevant research. They are also expected to be active in consultations with decisionmakers in the Executive Branch and in the Congress.

NSF issued a program solicitation early in 1981 which provided for a two-stage competition for research support. The first stage, which has just been completed, was the planning and capability demonstration stage. For that stage, 50 proposals were submitted, and NSF made small awards to nine research groups: four in the area of "U.S. Options for Modifying the International Monetary System," and five on the topic of "U.S. Policies in Response to Growing International Trade Competitiveness."

During the first phase of the program, each group was to identify major issues and options in international economic policy, develop a research program for longer term study, and demonstrate its capabilities for carrying out such a program. Following the completion of the first stage, the Phase I reports and the Phase II proposals for the longer term research programs were evaluated competitively by a review panel convened by NSF. For the second phase, NSF is supporting two research groups to carry out integrated research programs over a four-year period. We think all nine groups did outstanding jobs in Phase I, but a tight budget constrains what we are able to fund for Phase II.

Now that I have given you some background on NSF's program in international economic policy research, I'd like to turn to the colloquium itself.

The colloquium is intended to provide a forum for the international economic community to learn about the findings and conclusions of the individual Phase I efforts. The session today will enable you to compare and evaluate the similarities and differences in the major policy issues and options identified and in the research approaches recommended. We hope to elicit your responses to the research findings and observations of these groups, and we hope to generate a lively debate and interchange of ideas.

First, the five project directors will present the highlights from their papers in 15 to 20 minutes. Then we will have a short break followed by open discussion and questions from the floor. We think the discussion period is a very important part of the colloquium. We are planning to record the presentations and discussion and publish the papers and proceedings afterwards.

I would like to introduce our speakers. First, we have Gary Hufbauer, who was at Georgetown University during his Phase I research. Dr. Hufbauer is now with the Institute for International Economics. Next we have Robert Baldwin from the University of Wisconsin; J. David Richardson from the University of Wisconsin and the National Bureau of Economic Research; Robert Lawrence and Lawrence Krause from the Brookings Institution; and Robert Stern from the University of Michigan.

We will be starting with Dr. Hufbauer.

PANELISTS' REMARKS

GARY HUFBAUER:

I would like first to acknowledge the work of my colleagues, Michael Czinkota and Charles Trozzo, on this project. If there are difficult questions, please direct them to Michael and Charles.

The international outlook is bleak. Our present difficulties have four basic sources. First, there is a growing number of nations that manufacture internationally traded goods. Second, there is excessive union power in key industries in the United States, in Britain, and in some other countries. Third, we see increasing reliance on economic sanctions as a means of carrying out foreign policy. Fourth, we must deal with the international consequences of domestic disinflation.

The new directions in trade policy stemming from these basic difficulties include: first and most important, protecting problem industries from import competition; second, attempting to create a level playing field for U.S. exports; third, fashioning a more direct union between imports and exports, that is to say, bilateralism in a number of different forms; fourth, achieving non-economic goals through economic policy; and fifth, changing the U.S. stance towards multilateral institutions, coupled with a greater emphasis on regional arrangements.

Let me briefly touch on each of those themes.

First, the overriding trade policy concern of the day is to protect troubled industries from import competition. In light of this policy concern, what, if anything, can be done about the seemingly inexorable drift towards administered protection, not only in the United States but in Europe and elsewhere?

The instances of protection involving the United States within the past year can be briefly mentioned. At the last minute, the White House beat a hasty retreat from a liberal stance and acquiesced in a highly restrictive Multifiber Arrangement. The Commerce Department spent much of the year negotiating quantitative restraints in the steel trade, with a flavor highly reminiscent of what happened before in textiles and apparel. Quotas were imposed on U.S. imports of Japanese cars; it's true that they're not binding, but that doesn't mean that they're not important. There was the use of sugar quotas as a device to help enact the Economic Recovery Tax Act of 1981. Local content requirements are yet to come, and other industries (such as uranium) are waiting in the wings to have their turn at the protectionist plate.

Administered protection is a boon to the receiving industry. That industry invariably promises better performance after it has enjoyed a period of "breathing room." But it's hard to see the promised performance taking place. For example, we've had innumerable rounds of restrictions on steel imports. In 1970, steel wages were 19 percent greater than average

rates in durable manufacturing. But by 1981, they were 54 percent greater. I think that tells most of the "breathing room" story. A straight-forward solution to the U.S. steel industry's problems is to cut wages by one-third, but even to mention that solution is to suggest that it's not very likely. The story is much the same in the auto industry. The textile industry has shown a limited amount of adjustment, apparel virtually none, and sugar, of course, is noncompetitive on a world scale.

What could possibly be done, given the very strong pressure to alleviate industrial discontent? The only promising option that we came up with entails two stages: in the first stage, all nontariff barriers would be converted to tariffs; in the second stage, those tariffs would be used to finance adjustment out of the industry. To ensure that such industries could not postpone adjustment indefinitely, tariffs should be structured to decline over time.

That, of course, is not a quick solution, but at least it would promise adjustment in the long run, perhaps by the year 2000. Under this scenario the textile industry, some 18 years from now, would operate on a no-protection basis.

Turning to the next theme, the level playing field for U.S. exports: this metaphor evokes the notion of everyone playing by the same rules and may the best person win. The emphasis on a level playing field bespeaks a widespread disbelief in exchange rates as a satisfactory equilibrium mechanism. That disbelief goes beyond the present extensive overvaluation of the dollar. Each industry basically feels that it ought to be competing on the same terms as its principal competitors, at least in the industrial countries, regardless of overall exchange rate movements.

The level playing field metaphor has found its policy expression in incentives to export production, in particular the DISC and the Export-Import Bank, and more recently in the quest for reciprocity. All of these measures are justified as mirrors of legislation abroad. In the view of my colleague William Cline, who recently published a monograph on the subject, the new "aggressive" reciprocity would represent a major departure from historical U.S. attitudes towards trade. Never mind that reciprocity is phrased in a soft form this year. If enacted, the intellectual concept would be put in place; then it's just a matter of enacting strengthening amendments to carry out the concept over time. Eventually, reciprocity would lead us from a most-favored-nation approach to a sector-by-sector bilateral approach to trade issues.

Our group was unable to devise strong recommendations in this area. Perhaps the Congress could create very narrowly defined private causes of action, elaborating somewhat on the present countervailing duty and anti-dumping statutes to redress, for example, performance requirements imposed by foreign countries. That approach would be much more narrowly channeled than the present legislative thrust.

Let me turn now to the direct linkage between imports and exports. The range of linkage measures includes: barter, counterpurchases, military offsets, coproduction arrangements, and the like. All these have been flourishing. Clearly, there are willing partners in these arrangements; otherwise they wouldn't flourish. It's another question whether third parties are disadvantaged by the increasing bilateralism which takes place in linkage arrangements. We would suggest that linkage arrangements do cause systematic injury, often unnoticed in particular transactions.

Again, the trend is very powerful, and it's hard to see an easy reversal. Perhaps disclosure of linkage arrangements would be a first step--forced, for example, by private rights of action created in the name of third parties.

The achievement of non-economic goals through trade regulation has become a very popular subject for study. Jeff Schott has recently done a good paper. Michael Czinkota is working on a paper. I'm working on a study on sanctions. Perhaps all this academic interest means that the policy trend is about to reverse itself.

Conspicuous failures in the use of sanctions are well known. But there are a number of instances where economic sanctions have, at least according to my preliminary investigations, achieved their goal. Those instances tend to be cases where the goal was not so ambitious, and cases where the target country was weak--for example, the Dominican Republic in the early 1960's or Chile in the mid-1970's. In short, surrounding circumstances were favorable for the sanctions having their intended effect.

In any event, we will probably be living with an active sanctions policy for the foreseeable future. I do think that there are ways that implementation could be improved. For example, Congress might very well have a chance to hear, in executive session, Presidential proposals for the use of sanctions before the President takes action. Probably existing contracts, except in times of war, should be grandfathered; retroactive application casts very substantial doubt on the reliability of the U.S. as a supplier. It would be plausible to make the restrictions more broadly based rather than more narrowly based. In particular, sanctions should cover imports as well as exports. Finally, the principles of producer compensation, which have been embodied to some extent in the agricultural field, commend themselves to the industrial field.

Turning to the last theme, the U.S. stance towards multilateral institutions reveals an increased emphasis on bilateral approaches. The U.S. is drifting away from its own creation, the GATT. The only agency of the government that is enthusiastic about the GATT Ministerial meeting in November 1982 is USTR, and even USTR's attention is distracted by other issues. Meanwhile, the Treasury seems to be in the process of more or less disowning the International Monetary Fund and the World Bank. The policy tilt of the day emphasizes bilateral solutions to problems--direct dealings with the Europeans and the Japanese and the Canadians. In this tilt, the multilateral institutions are relegated to a secondary position.

I think this is most unfortunate. Of course, the U.S. cannot withdraw from these institutions, but it can allow them to atrophy. I would endorse a major U.S. initiative to turn around this whole approach, starting with the Fund and the GATT. Concrete steps can be taken: increase the quotas of the Fund and energize the GATT Ministerial.

I think I've more than used up my time. I'm sorry I can't cast more rays of sunshine, but the remaining speakers may counterbalance my pessimism. Thank you.

ROBERT BALDWIN:

The period since the end of the Tokyo Round has been one of considerable frustration and disappointment for the United States as far as trade policy is concerned.

I think nobody expected that the implementation of the new NTB codes would be easy or that they would restore international economic order overnight, but there was a general feeling that there would be definite progress towards better world trading relations. However, in all the five policy areas that we identified in our study as ones of major concern to U.S. trade officials, we find either important new or continuing disputes with our trading partners or recognition that domestic policies in these areas have not been working well.

Let me briefly elaborate on these points with references to the five goals that we outlined. The first area relates to trade in goods and services where the goal is to insure that trade is not restricted by unjustifiable (in terms of GATT rules or commitments) foreign or domestic measures, and that U.S. import-competing industries are not injured because of unfair trading practices.

Bitter conflict between the United States and the Community concerning our allegations that the European Community's steel industry receives significant subsidies and engages in dumping, both of which materially injure the U.S. steel industry, vividly demonstrates the post-Tokyo Round increase, rather than decrease, in international economic disputes. The European Community's agricultural policy also continues to be a major source of friction.

We ourselves have contributed to a further breakdown in international rules by forcing a voluntary export restraint agreement on the Japanese auto producers, and the prospects are not very favorable for reaching an agreement in the near future on a new safeguards code within the GATT framework. Even the effort to make progress towards liberalizing trade in services seems to have recently been pushed into the background.

The second goal that we identified as being of major interest to trade officials is facilitating industrial adaptation in a manner that prevents undue economic and social disruptions in those sectors where we face either deteriorating or improving comparative cost position. The disappointment in this area results from the fairly clearcut evidence that the trade adjust-

ment assistance (TAA) program has not been very effective in promoting efficient adjustment, though it may have accomplished its equity goal as well as the objective of offsetting protectionist political pressure.

Better benefits received by TAA workers compared to regular unemployment insurance recipients has had the effect of lengthening the period it takes workers to find another job. A high proportion also return to the same firm rather than shift to other jobs. Furthermore, there are preliminary findings that TAA compensation, which is not taxed or experience rated, both increases the supply of labor in industries with high TAA certification rates and increases layoffs in these sectors. A sharp cut in funding indicates that dissatisfaction on the part of labor, management, and government officials with the program.

The third goal we found to be of widespread concern was that of assisting the developing countries to raise their living standards. In this area, we found many officials arguing that we had gone too far in granting trade concessions designed to promote LDC development goals. In particular, they wanted a system of graduation to be introduced in our GSP scheme. Also, a number of officials look favorably on selectivity in dealing with disruptive imports from the NIC's as well as certain advanced countries. The LDC response to this, as we all know, has been quite negative. U.S. pressures on these points, as well as others, have served to worsen our trade relations with these countries in recent years.

The fourth goal pursued by trade officials is to further the national security objectives of the United States. The grain embargo of a few years ago and the current ban on sale of high technology goods made by U.S. firms for use in building the Soviet gas pipeline to Europe demonstrate the domestic and international conflicts that the pursuit of this goal can leave. Few would disagree, I think, that this is a subject where strenuous efforts are needed to improve the degree of cooperation between the United States and its allies.

Finally, we found that U.S. policymakers are much concerned about protecting the economic interests of U.S. investors abroad, and about preventing foreign investors from exerting undue economic and political power in this country. The disappointment and frustration that we have found in this area concerns the apparently increasing use by foreign countries of investment performance requirements, especially those relating to trade performance. Both developed and developing countries are to an increasing extent tying foreign investment in their countries to such measures as domestic content and export performance requirements. The dangers that these requirements will undermine our liberalization efforts in the tariff and nontariff areas is evident.

Let me state at the outset that, in all major areas of policy concern to U.S. trade officials, we found a sense that international economic relations had worsened since the Tokyo Round, or at least I interpret it that way. In asking why this has come about, one can, of course, rightly point to the worldwide recession and to the misalignments of certain currencies

as important explanatory factors. Obviously U.S.-Soviet political relations also play a role in the national security area.

However, another important reason in our view, and one to which we devoted considerable attention in our Phase I work, is the decline in the international competitiveness of a number of U.S. manufacturing industries. As these sectors cope with falling profits and employment, they quite understandably press not only for adjustment assistance from the government, but also for more stringent controls of unfair trade practices by foreigners, for the end of special U.S. concessions to countries that are the source of increased competition, and for outright limitation on exports of certain developed and developing countries.

In my view, a crucial question, the answer to which will greatly influence the nature of future trade policy options, is how widespread and significant is the decline in U.S. international trade competitiveness. If the decline applies only to a few important sectors, like steel, textiles, apparel, and autos, then the piecemeal approach that we have been following in response to the problems of these sectors may be adequate. However, if the decline is widespread and worsens, we will eventually be forced to adopt a more consistent and transparent set of policies to cope with the problem. Thus, a subject to which we devoted considerable attention was the U.S. international economic competitive position. We considered several aspects of this subject. First, using a simple impact model, I estimated the average annual international competitive impact in four-digit manufacturing industries for the 1970's.

Using a short-run perspective, Dave Richardson investigated the extra costs of job displacement due to the fact that the additional unemployed workers act to lengthen the duration of unemployment of those already unemployed. Dave also developed a medium-term model to account for average annual changes of employment during the 1970's in terms of not only international competitive changes, but also such longer run factors as productivity changes, substitution among factors and inputs, and wage fluctuations.

Then, I also utilized a Heckscher-Ohlin type model developed by one of my students, Spence Hilton, to make a determination of those sectors in which we have the strongest and weakest comparative advantage and where we seem to be showing either increasing competitive weaknesses or competitive strengths. On the basis of some of the information developed from this model, Rachel McCulloch made an assessment of whether certain of our exports were being held back by various nontariff trade barriers in particular countries or perhaps by some of our own policies that keep an industry from fully exploiting its comparative cost advantage.

Andre Sapir's contribution to the project was to examine the employment and skill composition implications of the trend in the growth of the services sector relative to manufacturing.

Our work in these various studies, together with an examination of other studies in the field, serves to reinforce the view held by many that

the decline in U.S. trade competitiveness extends over a significant number of industries and that this pressure will continue to spread over more sectors. At the same time, however, there are clear signs of considerable competitive vitality in a number of industries. All this spells considerable pressures for adjustment, whether it be out of declining sectors or into expanding ones. When one combines this outlook with the poor prospects for world economic growth, it seems evident that much work needs to be done in devising policy options to help maintain a politically reasonable degree of international economic order within an open world trading system.

In our Phase I research, we only considered alternative policy options in very general terms. However, what I would like to do now is make a few suggestions concerning research, negotiating approaches, and institutional changes that might help further the international objective I just mentioned, namely, a politically acceptable international order within an open, liberal trading system.

In economic research, I strongly believe that there is a pressing need for much more empirical work on the main trade issues that face policy officials. This type of research can often help considerably in narrowing the range of policy choices seriously considered by policy officials.

Solid research that carefully examines the welfare and employment implications of such measures as our off-shore assembly provisions, the recently proposed domestic content requirements, selective voluntary export constraints, and the introduction of graduation into our GSP scheme, can help minimize the number of cases where a policy is adopted that turns out to be both highly inefficient in an economic sense and ineffective in a political sense. And there are many of them that, in fact, turn out this way.

Unfortunately, it is very difficult to get enough of this kind of research within the government. A good researcher usually turns out to be the kind of person who is also good at writing the quicky memo needed for a suddenly announced interagency meeting or a meeting in Geneva or Paris that we have to go to and just learned about last week. It doesn't take long for the political people to find this out and pull the individual out of this kind of research and into what essentially becomes memo writing. Of course, the individual doesn't mind particularly if he's new in the government, because he gets involved in what he considers the heady world of policymaking, and the trips and so forth are very exciting. So it turns out he's taken out of research.

If we are to get the kind of research that I think we need, we must rely on a cooperative effort between those researchers in the government who are able to keep some time for objective research and those in the academic community who are interested in trade policy. It seems to me one of the great accomplishments of the NSF competition was to bring the two groups closer together. When I first came in the government in the 1960's, we just didn't have the depth of research capability in the government that I see here now, and at the same time, we didn't have anybody in the academic community who was interested in doing research in trade policy matters.

Now that has changed. There are many people in the government who are highly capable, motivated researchers, and I think we see more and more researchers in the academic environment who are interested in trade policy. I'm hopeful that out of this competition we will get much more of this kind of needed research.

Economic analysis should, in my view, also be used more extensively in trying to resolve some of our more difficult areas of international conflict in the trade field. Take the matter of domestic subsidies. We should recognize, as the new subsidies code does, that domestic subsidies will be used by governments for what they regard as legitimate social purposes.

For example, the governments of Europe are not going to let such economically inefficient industries as shipbuilding, textiles, and steel disappear in a short time at the cost of thousands of jobs. At a minimum, they're going to try to cut these industries back gradually and use subsidies to prevent sharp, significant cutbacks. Nonetheless, what we are really concerned about is that such subsidies should not be used to put a significant part of their adjustment burden on us. In other words, temporary domestic subsidies may be acceptable in certain circumstances as long as they do not force a disproportionate part of the adjustment burden on foreign countries. As far as I can tell from my discussions with European trade officials and others, this is a general position that they would accept.

In dealing with subsidies in this country, we have a division of authority between two agencies. One determines whether subsidies do or do not exist--a matter that generally is not too difficult to determine. Another agency then determines whether material injury has occurred as a result of the subsidies. This is a much more difficult task. The criteria that are being applied currently to determine material injury strike me as being too legalistic and do not emphasize the economic content of material injury sufficiently.

If we continue to apply narrow legal standards, then we're bound to continue to have the kinds of conflicts we have seen recently in the U.S.-E.C. steel case. I would suggest an interpretation of material injury that focuses upon whether the subsidization economically injures the affected country.

I would also like to make two institutional suggestions. One applies to the implementation of domestic trade policy and the other to international negotiations.

On the domestic scene, an interesting development over the last 35 years has been the policy of Congress to increase the power of the President to restrict trade but curtail his power to reduce trade barriers. Under almost each trade act Congress has put restraints on the President's authority to reduce trade barriers by such means as allowing Congress to override a Presidential decision or requiring Congressional approval before an internationally negotiated trade agreement can go into effect. At the same

time, as is illustrated by Section 301 of the Trade Act of 1974, the Congress has greatly increased the unencumbered powers of the President to restrict trade.

We now have a situation where the President can impose trade barriers without following the due process procedures that other branches of government are required to do. The ITC and the Congress must hold extensive hearings before they can restrict trade, but the President can impose a trigger price mechanism or push through voluntary export restraints without allowing all parties to be heard in free and open hearings.

As a result, we observe that currently the favorite way to obtain protection for politically powerful economic sectors is to put pressure directly on the President; this is done both by the industry and through the Congress. It turns out to be very hard for a President to resist this kind of pressure. Consequently, we need new mechanisms to protect the President from being unduly influenced by political pressure groups who are seeking increases in protection outside of the traditional ITC route.

Finally, let me say a few words about international negotiations and, in particular, suggest that it may be useful to return to a certain degree to the type of bilateral negotiations that were undertaken in the early days of the Trade Agreements Act. Given the present economic environment where nontariff barriers, often of a country-specific nature, are very important in trade policy relations, and where trade, investment, exchange rate, and even immigration policies are all closely interrelated, the technique of assembling a large number of countries in one place and trying to run a successful negotiation is no longer always a very fruitful approach. At best, one can come up with some simple trade liberalizing formula that doesn't get at many of the matters of vital concern to the participants. Perhaps by holding bilateral or regional negotiations on a relatively small number of traded goods, but also on such matters as foreign investment, tax credits, debt services, foreign aid, and so forth, we can break out of the negotiating dead end that we now seem to be in.

Of course, I would want any concessions made of these negotiants to be extended to all on an MFN basis. Moreover, I would not abandon such multi-lateral negotiations as the Tokyo Round, since they do play an important role in reaching agreements on issues of general concern, but we might try to supplement these with a series of less general negotiations.

These are just a few suggestions about policy options that I would throw out for possible discussion. Presumably a series of more carefully thought-out and empirically analyzed policy options will emerge from Phase II work.

J. DAVID RICHARDSON:

I should point out that in the Phase I efforts I wore two hats, and I'll only be speaking with one hat on today. I wore a Wisconsin hat in Phase I as a participant in the Wisconsin project, and then I co-directed the National Bureau project with Bill Branson. It's under the latter hat that I'll address you this morning.

I think a word of thanks is in order to a number of you in this room for your part in all of these projects. I'm sure none of us would mind if I spoke on behalf of all of us. Thank you for the very stimulating input that you had all along in the design of our projects, in the conclusions, and even in some of the very detailed outworkings of the Phase I work. You were patient in attending meetings and helpful in scheduling meeting places. You also suggested content to us that we never imagined, but as we listened to you, we began to see that, yes, that was important and we could say some intelligent things about it. I hope that you as a policy community feel that you have had a role in these projects, because I certainly think so.

It might be interesting for you to know who has been involved in the National Bureau's aspect of this. As I said, Bill Branson and I co-directed the group, but the group was made up of six other people. Irving Kravis, who is here, is one of those. Bob Lipsey is one. Anne Krueger was one. Paul Krugman, who has lately come to the Council of Economic Advisers, was one. Gene Grossman and Jeffrey Sachs round out the Bureau's group.

Since Anne Krueger has gone to the World Bank in the past year, we needed someone to replace her in the team. She was doing research in U.S. trade relations historically and for the future. We asked Bob Baldwin if he would become a part of the Bureau's project to take Anne's place and also incorporate some of his own work. Now Bob wears two hats as well.

Bill Branson is absent today. He's overseas for the year, and I will try to speak on his behalf as well as my own.

I would like to stay away from things that I think you all know better than we do and focus on some of the things that you perhaps don't know as well that came out of our Phase I efforts. I would prefer not to say too much about our Phase II intentions at this time. Maybe the question period would be a good time to bring those out.

Rather than inventory a set of conclusions or policy options, I would rather talk more discursively about the flavor of our Phase I research and about the beginning of the Phase II research that will pick up on Phase I. I'll mention findings and conclusions and policy options along the way, and I hope that elicits some questions as well.

We thought of the Phase I research as following two paths initially. We then discovered that there was a third path that we had to follow that was crucial to the first two.

The first of the two paths we thought of initially was to trace the policy environment that faces U.S. trade policy. That required us to examine trends in world trade and in world growth rates that shape U.S. trade policy, but which may not be well appreciated or well known. The world is not the way it used to be, and we thought looking at the environment would be the first thing to do. There are both pressures and opportunities that come from modern trends in trade and growth.

The second path was to chart some of the options for U.S. trade policy in this new environment, and not only to list them, but also to consider their ramifications. We wanted to talk about their benefits and costs in as balanced a way as we could, so as to lay out an agenda of what some of the new opportunities for trade policy might be in the new world of trade.

Well, to do those two things, to look at the policy environment on the one hand and the policy options on the other hand, we discovered that it would be helpful to us, and we think helpful to you as well, to talk about the analysis, the whole framework in which we study international trade and exchange rates. The insights that we discovered for trade patterns and policy options spring not only from our tried and true methods, but also from the economics of imperfect competition, the economics of strategy and gaming in which groups act as self-conscious wholes, and the economics of technology development and technology transfer. These are new areas of analytic developments.

So we ended up with a third path. It stressed the application of these analytical developments to the first two paths. The analytical portion of our work helped illuminate some of the trade trends and some of the policy options. That's why I think that combination of three paths proved to be very stimulating. It had both a practical application and some deep scholarly stimulation to us. These were new ideas applied to trade policy options and trade policy environments.

Let me talk about some of these ideas under the three headings: the environment, the options, and the analysis. Let me also say right up front that perhaps some of what I'll say may sound like a departure from the way we usually view trade policy, a departure from our typical reaction to what's good and what's bad in trade. If I say it that way, it will be to try to stimulate you as much as we've been stimulated. But I don't think any of us have any doubts about the benefits of open trade over the past 30 years, and we don't have any doubts about the continuation of international trade over the next 30 years.

The question is, however, within the broad range between no trade at all and completely free trade, where is it that we can assure ourselves of maximal benefits from the trade that we take on and assure the rest of the world of obtaining some benefits as well, so that the whole exercise becomes one in which everyone gains, and yet certainly not one in which free trade is the best of all worlds either. Even abstract analysts, when they come down to admitting externalities and distortions and so on, admit that all of those cut either in the direction of more trade or less trade, and cause us to back off from kneejerk ideological recommendations for trade policy.

We're not going to make any recommendations of course. That's not the nature of this project. But we do want to think of what the options might be and what some of the costs and benefits of them might be. We do this in a world where we have imperfect competition, where we have technological development and diffusion, where we have rent-seeking behavior, where we have lots of economic decisions being made on the basis of expectations and

speculation, and where we have financial variables causing tremendous fluctuations in real variables and creating a kind of adjustment pattern that may not be the best that we could choose. In order to lay all of this in front of you clearly, there may be times in which the most enlightening way is to pose things provocatively.

Let me talk a little about the environment in which we think that trade policy has to be made in the United States. We think it's not wise to continue thinking about trade policy as if it were a single response to a single event, a single tariff in order to solve a single industry's problem.

We think that a better way to look at the environment these days is as a changing, growing, adapting trajectory. There are, for example, trends in the environment that shape trade policy over long periods of time, such as the trend towards complementarity in American trade patterns. The goods that we are presently exporting are becoming more and more different from those we are importing. That has implications for adjustment costs and defensive trade policies.

Now once we begin to look at the environment as if it were a trend, a pattern over time, there are certain dynamic issues that naturally come to the fore, such as the way in which trade policy might have an influence on the slope of that trend. The slope of that trend is just a growth rate, and we rarely ask how trade policy affects the determinants of growth. We don't ask how it affects capital formation often. We don't ask how it affects technological development often. Yet we think those are important questions.

We think they've been neglected both in the analysis of trade policy and in the application of trade policy. On the perverse side, trade policy might become stagflationary itself. On the positive side, trade policy might be shaped in such a way as to raise trend growth rates of economies, and to increase an economy's capital base or ability to withstand shocks to a trend.

Now speaking about shocks to a trend leads us to consider the way that trade policy, instead of being a single response to a single shock, might sometimes be a set of guidelines that a government chooses that has desirable properties for the variance of shocks. Reduced variance may translate into reduced uncertainties facing domestic producers, who see real exchange rates varying by as much as 20 percent within a year toward any given customer.

Now, can trade policy affect the variance of real exchange rates, or can trade policy have desirable consequences for uncertainty? We know well what it does to averages or means. We don't know well what it does to variances--variances in the business of American exporters and import competitors. We think it's worth doing some analysis on that, and we think it's worth thinking of trade policy sometimes for its variance-reducing benefits if there are some. We don't prejudge the case, but we wonder if that is a possibility that might come out. There's a raft of arguments that one can make to show that trade policy sometimes might substitute for

imperfect capital markets, and sometimes might substitute for imperfect insurance markets.

Although it sounds heretical, we have wondered if it's time to investigate trade policy beyond the competitive paradigm. We often have a competitive paradigm in the back of our minds even when we talk practically about trade policy. Yet we see the world becoming increasingly strategic and self-conscious in its trade policy. We see a lot of trade policy being formed like state trading. In fact, a lot of trade is essentially state trading. That old notion has a modern counterpart. We often don't look at that literature, nor do we think of what the most desirable response would be for a market economy with a market-oriented government facing a group of state traders.

Now, what do we do when we face state traders? Do we adopt a passive market-based trade policy? Perhaps so. No one is going to rule out that option, because it's possible indeed, as economists have often shown, to take advantage of the mistakes in state trading that other nations carry out and, in fact, to be better off, for example, accepting the dumped goods and saying, "Thank you very much." But we think it's also worth looking at trade policy in a strategic sense and asking what our response should be when we confront self-conscious traders or when we confront coalitions of governments, whether they're sanctioned coalitions, such as the European Community, or unsanctioned coalitions. Is there any case for aggressive reciprocity? If so, what are its detailed aspects? We don't prejudge that either, and we've had some interesting discussions about that concept.

You notice that none of this makes sense in a competitive paradigm, because in a competitive paradigm, we're absolutely certain what the answers are. We know that the very best policy is no policy in that paradigm.

Now if trade policy is remedial for distortions of the kind we usually think of, often it turns out that it's remedial only in an inefficient way. There are much better policies that we could use against the distortions than trade policy. That point of view springs from the competitive paradigm, but we're not sure whether it springs from the strategic paradigm or not. Trade policy, for example, may be the only credible policy for eliciting desirable responses in our trading partners.

We have also been impressed during Phase I with the inability that we have to differentiate between factors and products in the way that we often do when we think of trade policy. We can't divide them that way any more, because we see virtually every physical input and many, many services being traded. That trade blurs the distinction between factors and products. Not only that, but there is a range of intermediate products that seem like factors one period when they're on the shelf, and like products the next period when they're incorporated into automobiles and machinery and things like that.

What happens when you look at time periods, as we do in this project, and something is a factor in one period and a product in the next? How do we make trade policy in a world like that? These are some very practical concerns for trade policies, such as content protection, which is protection over the inputs of a production process, or for offshore assembly provisions of the tariff laws. Offshore assembly provisions divide up a production process and say certain processes can be done, while others cannot be done without being taxed at the border.

We find that there may be some promise in strategic offshore assembly adjustments in U.S. trade law, but we find very little promise in content protection. What content protection often does is deprotect other stages in the production process. So although you may protect one stage, you deprotect the other stages. Since it's often these other stages in which you have comparative advantage, you certainly don't want to deprotect those.

As we have begun to think of trade in a world of trends, divergences, and stochastic shocks, trade policy might sensibly be shaped to have more than one element to it. We always think of trade policy as affecting the mean values, but we don't often think of it as having a divergence-sensitive or a variance-sensitive component. Bob Baldwin referred to safeguard mechanisms. Safeguard mechanisms don't usually aim at mean performance or mean industrial structure. What they aim at is avoiding a wide, unfavorable swing in the industrial structure that would be temporary--a divergence rather than a permanent change.

It may be helpful to think of trade policy in these two ways. One aim of trade policy is to shape permanently an industrial structure or an employment structure. The other aim of trade policy is to shape the way structural fluctuations take place around your desired structure. You may have a tariff structure for the first reason, and a safeguard mechanism for the second. Those are very different trade policies, because one is temporary and one is permanent. They both affect resource allocation.

One of the conclusions coming out of our work is the crucial need for trade policy of either kind to be transparent. If policy is going to affect the decisions that entrepreneurs and workers make, it should do so in a way that can be seen, even foreseen. Predictability, credibility, and anticipatability become important words for trade policy as much as they are for other kinds of government policy.

We often don't think of the importance of having predictable, credible, or anticipatable trade policy. It does tie the hands of policymakers in a way because it requires guidelines and rules for behavior that are clear and that are not changed much from time to time. But in another way, it frees up policy to think about the desirable properties of rules and guidelines rather than thinking about what shall be done next in an unorganized and unsystematic way.

Let me give you an example of how predictability is a desirable characteristic of trade policy. If one can anticipate trade policy, then one can

avoid some costs that turn out to be very costly indeed, e.g., investments in plants that become obsolete in five years, because one wasn't able to anticipate the end of historical protection. One can also avoid a kind of response to government protection that indentures whole families and whole regions to particular industries "forever." One can also avoid the kind of distortions that price rigidities produce. When protection is put on or taken off unexpectedly, wage-price rigidities translate the change in trade policy into unemployment and excess capacity. But if you can anticipate the change in trade policy, or if you can judge fairly accurately what a government is going to do, then you respond to expected prices and expected profits. Expected things are never rigid. They're never distorted in the way that produces unemployment and excess capacity.

What's the alternative to predictable, credible, and anticipatable trade policy? The alternative is unsystematic, arbitrary, capricious, and stop/go trade policy. Those are all pejorative terms. Yet often we don't see how accurately those pejorative terms describe the way we plan trade policy--as if it could be "exogenous."

I want to repeat that more of the detail concerning these things is in our written work. I'd be happy to answer questions on these matters later. I hope that my remarks at least give you the flavor of the work we've done under Phase I. And I hope they can be helpful to you in evaluating the options on which ultimately you have to decide. Thank you very much.

ROBERT LAWRENCE:

What I would like to do is use the time available, first, to describe some points about the program which we implemented in the course of Phase I, and, second, to discuss our major findings. The discussion of the major findings, in turn, will cover: (1) what we found about the policymaking environment, and (2) what we found about the major policy problems that this environment provided.

Let me begin by saying briefly that our aim in Phase I was to uncover some of the major policy problems that could provide a foundation for research in Phase II and be useful to policymakers. In order to achieve that, we conducted an extensive set of one-on-one interviews, and we also commissioned and undertook a series of ten studies.

Our belief was that, in order to hit on the major policy problems, one needed a cross-cutting approach. One should examine the problems as they appeared to the policymaker, but one had to do so from various perspectives. Therefore, the studies that we arranged integrated a number of diverse approaches. First, we tried to uncover the major global trends and the major patterns of U.S. trade performance. Second, we looked at American adjustment problems. Third, we took another slice by examining the major issues in U.S. bilateral relationships.

We also thought we should develop some industry expertise, which is another way of slicing the pie. Therefore, we undertook preliminary investigations on what we know and what we need to know about U.S. services trade,

U.S. high technology trade, and several specific U.S. industries including steel, automobiles, and textiles. Finally, we also undertook an overarching study of the politics of international trade.

The ten studies resulting from these efforts were brought together as background papers for our Phase I report. Of course, we can't go into great detail on the individual papers here.

What did we find? Let me deal with the major findings in two parts. I'll say something, first, about the current policymaking environment and, second, about the major policy issues.

Insofar as the environment is concerned, we find very contrasting trends in global development; these trends reflect differences in behavior of developed and developing countries. The locus of international growth has shifted towards the developing countries. Remarkably, they've been able to sustain their economic growth since 1973, and that applies both to oil exporting and oil importing developing countries. Within the developing countries, we find actually a growing belief in the importance of the removal of protectionism. The notion of import substitution seems to have lost much of its credibility with the growing success of export promoting regimes, particularly in the developing countries in Asia.

There are contrasting trends. On the one hand, in the developing countries, we see a drift towards a decline in protectionism. We also find the same drift in the decline in protectionism in Japan. On the other hand, we find stagflation and the growing increase in the new protectionism (which we heard discussed earlier today) in the developed countries. The developed countries are on a path towards growing protectionism, not really because of disenchantment with the belief in free trade. Instead, protectionism reflects their growing difficulties in dealing with the current stagflationary environment in which they find themselves.

We also note that the forms of this new protectionism--the orderly agreements, the voluntary export restraints--represent growing trends towards increasing bilateralism and increasing sectoralism. This fragmentation of the overall system of global trading rules provides deep problems, both for policy analysts, on the one hand, and for policymakers, on the other.

Let me make some remarks also about American trade behavior. There, I think it's very useful at a conceptual level to make the distinction between American trade patterns as they are progressing in trade with developing countries and trade competition as it's proceeding with developed countries. That's a peculiar way to say I'm making conceptual distinction when, in fact, I simply distinguished trade on geographical lines. But what we find is, in fact, that there are very distinct conceptual differences in explanations for the trade behavior between the United States and the developing countries, on the one hand, and U.S. competition with developed countries, on the other.

With respect to our competition with the developing countries, we still find that the old paradigm of the Heckscher-Ohlin type model put within a

dynamic context explains the trade patterns. Increasingly, the United States specializes in the high technology end, the human-capital-intensive end of production, while we import labor-intensive and routinized capital-intensive products. So we believe that, as an intellectual paradigm, the Heckscher-Ohlin type analysis is relevant for analyzing trade between the developed and the developing countries.

With respect to our competition with other developed countries, what we find increasingly is that developed countries are becoming closer and closer substitutes for one another. As Europe and Japan have converged towards American productivity levels, towards American wage levels, and toward American technology levels, we're all specializing and becoming increasingly specialized in high technology products.

In other words, we find growing substitutability between these developed country economies and complementarities between the developed and the developing country economies. What this implies is that analysis of the sources of disturbances in competition between developed countries has to be broadened from our current knowledge. The old paradigms just don't work in analyzing this type of trade competition. The implication for the United States is that, if other developed countries are producing products which are close to substitutes for our own, trade is going to become much more sensitive.

In interviews, I found that policymakers tend to discount the impacts of exchange rate changes and relative price changes, whereas I think that policy analysts in the research community have not paid attention to the other factors, e.g., trade credit and a variety of government policies, that promote trade. It surely seems that if we are moving to a world in which there is closer substitutability between American products and others, both relative prices and other influencing factors are crucially important. If price makes a difference, it's going to be clear that relative financing conditions make a difference. The analytical work has to therefore move towards a greater emphasis on the non-price determinants of trade.

The growing substitutability also implies, as I said before, a lessening of the ability to explain a lot of the variability of trade from aggregative type studies. This points out the need for a more detailed industry analysis and more detailed case studies as well.

Finally, another major element in the current trade environment is the stagnation in the United States. I think that what has happened is that the industries that have trouble as a result of current domestic conditions have tended also to be the ones that have fared poorly in international competition. Therefore, what we find is a reinforcing trend: U.S. industrial structure is moving for domestic reasons in a way that is very similar to the way that it's moving for international trade reasons. This implies that industries in trouble tend to seek trade protection as one way of trying to alleviate their problems.

Let me turn now to the question of the policy issues. It was very interesting that when I first studied trade theory, I learned there were

four reasons why countries may intervene in international trade. Free trade is optimal, but there are four recognized conditions in which one could intervene to have some kind of a trade policy.

The first reason for intervention is the so-called optimal tariff argument, which says that a country can be made better off if it has some monopoly power. Implicitly, other countries may be worse off if their trading partners have monopoly power. The second reason is the situation where the marginal social costs, say, in adjustment or even in innovation, do not reflect the marginal private costs. In that case the free trade situation would not necessarily be optimal. The third is the famous infant industry argument, and the fourth would be intervention on the grounds of national defense.

We found that these distinctions really are old and true verities, because by thinking about the policymaking problems, we found that we could indeed find modern day counterparts confronting U.S. policymakers which conform to these four types of trade intervention. Let me deal with two of them.

The first is the issue related to the optimal tariff argument. The way that manifests itself for U.S. policymakers today is in asking how should we respond to the growing distortions abroad in trade flows, in services flows, and in investment flows. It seems clear to us that there is no simple solution to those questions. There are arguments, on the one hand, that the simple solution would clearly be to do nothing, to simply remain passive. On the other hand, the suggested policy guideline is to match the subsidies that we find abroad.

Neither of these two policy strategies is particularly useful. In the case of simply remaining passive, there are problems of dynamic economies of scale, which might not be incorporated in a laissez-faire approach. There are crucial issues of cyclical problems. We also note that a country which does have an avowed strategy of remaining passive can leave itself open to the exercise of monopoly tariffs against it, so the strategy leaves it vulnerable. A U.S. commitment to free trade at all costs reduces our bargaining power. Indeed, we were led to conclude that, in thinking about this particular problem, it's going to be issues of strategy and questions more relevant to the game theory paradigm than to the free competition paradigm that are going to come into play.

We also believe it would be folly to simply try to match the distortions that are created abroad. However, in addition to the inadequacies of our intellectual paradigms in dealing with these problems, we also find extensive deficiencies in our data, particularly in our quantitative knowledge of the importance of these various trends.

Wherever we looked we found long lists, scare lists, in fact, of the various policy measures that were being taken abroad. If you go into the export credit literature, what you find is just long lists of terms. If you go into the industrial policy literature, you again find long lists of

policies. But nowhere can you find coherent estimates of the quantitative magnitudes and the quantitative impacts of this set of policies. We are really in the dark as to how significant they are, to what extent are they really changing trends, or to what extent are they simply a contributing factor.

We believe that major priority for research in this area has to be focused on quantifying the impact of these particular developments. They have to be quantified, because, first, we have to know how important they are, and, second, from a policy standpoint, we have to choose priorities. What do we really care about? Where should we be taking measures? Which of these measures can we ignore? All of those require some superior quantitative knowledge.

We found some estimates that have been done--a comprehensive set of interesting numbers from Germany in which you can obtain quantitative estimates of the impact of both regional policies and trade policies. But even there, the work has not yet been done to incorporate these quantitative estimates into a kind of general equilibrium framework to examine what effects these policies are having. Our inadequate knowledge also implies that, if the United States were ever to move in the direction of a more comprehensive industrial policy, we would not have a clue whether that policy was working successfully or not for many, many years. Although this may not be a sufficient reason against adopting such a policy, we should be aware that we do not have the kind of analytical framework in which we could appraise its effectiveness.

The second major issue is the distinction between marginal private costs and marginal social costs, and that focuses us on the question of domestic adjustment in the U.S. economy. How can we efficiently adjust to changing trade patterns? As I mentioned before, we find that there are reinforcing trends in the developments in our domestic economy, and I have been doing some follow-up work on this topic. Even if you abstract from the effect of trends, the United States is moving towards, especially in terms of our manufacturing industry, a high technology structure. The demand for the labor-intensive products, and this is just purely on domestic grounds, is simply not growing in order to keep pace and to maintain employment in these industries.

So these reinforcing trends highlight the fact that trade and the effects of trade should not be studied in isolation. They have to be incorporated in an overall view of the industries' problems, which implies again the need for more industry type studies.

In terms of our analytical understanding, I think the work we've done in measuring the job opportunities lost to trade is an important first step, but we have to move beyond these simple accounting frameworks and attempt to answer the questions as to what these trade disturbances imply for actual job losses. Let me also say that, in terms of an analytical framework, we have to incorporate a more general equilibrium analysis of the long run.

American policymakers believe that there's a need for more capital formation in this country; they also believe there's a need for more productivity growth. But they haven't got the foggiest notion of what policies enacted to attain such objectives would actually imply for the distribution of labor across American industries. It's kind of an article of faith that somehow domestic capital formation or productivity growth makes certain industries better off, other industries worse off, but we need a credible kind of general equilibrium model of the U.S. economy before we can try to validate these assumptions. Indeed, we think as a first start the one which Dale Jorgenson at Harvard has estimated may allow some simulations of the effects of some of these policies. We also looked at developing countries and highlighted various kinds of studies that we believe needed to be done there.

Let me just conclude then by saying that we at Brookings found this an extremely useful exercise even though we have not been selected for the Phase II program.

Our *raison d'être* is producing research that is of relevance to policymakers, and, therefore, we still intend to go along with the program which we designed for the Phase II proposal inasmuch as we are able to obtain funding for it. On behalf of my colleagues and myself, I would like to thank the NSF for providing us with the ability to spend time thinking about what our long-term research strategies should be, and I'd also like to thank many of you here today for helping us in discerning what the major questions of trade policy are.

ROBERT STERN:

The work that we did at Michigan in Phase I was focused mostly on the analysis of the past and potential future negotiations involving some traditional and some non-traditional kinds of issues.

In Phase I, we identified six areas that we worked on. I would like to just mention each of these and then tell you a little bit about some of the main conclusions that we reached on them. In the process I want to give some indication of what the possible directions for future policy and future research might be.

The first major topic that we identified in Phase I was the assessment of the Tokyo Round negotiations and the subsequent process of implementation of those negotiations. The second topic was the assessment of potential future multilateral negotiations covering both tariff and nontariff barriers and trade in goods and services. In addition, we tried to call attention to the fact (alluded to by a number of people this morning) that there are a number of other things going on in the world that impact very directly on international trade. A couple of the things that we identified in Phase I involve, for example, the effects of domestic taxes and subsidies as proxies for various industrial policy measures that countries may have built into their domestic tax structures. Then we also tried to call attention to the ways in which movements in real exchange rates may have very significant impacts on the major producing sectors in the advanced and developing countries.

The third general area that we worked on was an examination of whether or not it would be possible to develop a system for monitoring and evaluating current U.S. trade actions, both under the formal provisions of the Trade Act and also under the various kinds of special administrative arrangements that have become so prominent in recent years.

Fourth, we looked at U.S. bilateral relations, especially between the U.S. and Japan, and between the U.S. and Canada. Fifth, we began examination of U.S. export control and credit policies in East-West economic relations. Finally, we began developing a program for considering the politics of trade policy with an emphasis especially on some of the public opinion aspects.

Let me now summarize some of the main findings of our Phase I effort and, in the process, try to give you an indication of what we think are some of the implications of these findings.

With respect to the Tokyo Round negotiations and implementation, we're all, I think, pretty well familiar with the idea that the tariff reductions in the Tokyo Round will have relatively small effects across all of the major countries in terms of trade, employment, and economic welfare. At the same time, there was some rather limited progress made in the Tokyo Round with regard to agricultural liberalization that was obtained by the United States, as well as the negotiation of the various NTB codes, in particular, the code on government procurement.

In the exercises that we did to analyze the impact of the Tokyo Round using the Michigan model of world production and trade, we found that the effects of the agriculture liberalization and the potential effects of the liberalization of government procurement were in combination perhaps even more important than the effects that one would associate with the removal of tariffs. Another thing that we noted in our work was that the Tokyo Round offered comparatively limited gains for the developing countries. The reason for this is something that we're all familiar with, namely, that in the Tokyo Round, the existing structure of most NTB's was taken as given. Certain sectors were exempted from the negotiations, and so it's not surprising, therefore, that the developing countries really didn't gain as much as they might have otherwise.

As far as the implementation of the Tokyo Round is concerned, it would appear with respect to the NTB codes that the implementation of the codes covering customs valuation and product standards has actually gone quite well in the sense that all the major countries have adhered to these codes and that a number of important changes have been brought about in the behavior of the main countries. By the same token, the potential for government procurement liberalization and for the utilization of the subsidies code seems to be, at least up until now, something yet to be realized. From that standpoint, one of the important implications from the analysis described earlier is that it might be desirable to push especially hard in areas like agriculture and government procurement, because there are significant benefits that could be realized from liberalization in these cases (and perhaps in others as well).

Next, let me say a few words about future negotiations. We did one exercise which involved the removal of post-Tokyo Round tariffs, and that was done in the context of one of the agenda items that might come up in the forthcoming GATT ministerial and be considered something that would be worth doing. What we found was that, considering only tariffs, if you removed the tariffs that remained after the reductions negotiated in the Tokyo Round had been made (so that you went to a free trade situation), there were both gains and losses to be made as far as the major countries were concerned. These effects were all contingent, in our analysis, on the maintenance of existing nontariff measures. So what I would like to emphasize here is the significance of the nontariff barriers as something that is perhaps obvious, yet requires continued attention as far as future trade liberalization is concerned.

This is all the more important, because it's very difficult when you get into nontariff areas to try to formulate what the future negotiating positions might be. As Bob Lawrence pointed out, there's a very difficult problem because of the lack of information about NTB's and, therefore, about what the impact of NTB's may be.

Now to the extent that there are many nontariff barriers that impact especially on developing countries and that many of these countries are moving toward a traditional position with respect to international negotiations, it would seem that there's a very natural kind of thing to do. This is to try to work out combinations of trade liberalization in terms of both tariff and nontariff measures with respect to the promotion of interests and gains of both the advanced and developing countries. So that's one very important and traditional kind of area that I would like to emphasize, because I think there are considerable benefits to be gained from this initiative.

We looked at certain aspects of domestic policies, and the conclusion that we reached here, which may again not be all that surprising, is that the structure of taxes and subsidies in the major industrialized countries probably has a far greater impact on the allocation of resources domestically and, by implication, on the involvement of the sectors in trade than, say, do tariffs or, for that matter, most of the existing nontariff measures. What we thought was important here was trying to look somewhat more broadly outside of the kind of traditional trade measures and to focus on some of the more domestic measures that many countries have used and will continue to use, because these measures may have a far greater impact on resource allocation and trade than the more traditional trade measures will have.

This same point is true with respect to exchange rate changes. We took, for example, the changes in real exchange rates that occurred among the U.S., the European Community, and Japan in 1980 and 1981, and we found that the implications of those movements in real exchange rates were very profound in terms of the production and employment effects across sectors in each of these major countries/regions.

In that respect, these kinds of financial movements again dwarf the impact of trade policies. As far as the future is concerned, what this implies is a need to broaden the agenda, because there are many things going on in the world that are far more important than some of the more traditional kinds of trade policy issues that most of us have worked on over the years.

With respect to the monitoring and evaluation of U.S. trade actions, one of the things that we thought would be worth doing was trying to find out what actually was going on in the agencies in Washington in these areas. We wanted to assess what it would take to devise a system for monitoring trade actions that would be computer based and that would be able with the proper data input to be used very quickly to analyze some of the economic effects of various actions and various alternatives that might be taken under existing U.S. authority.

The major kinds of monitoring systems that exist within the U.S. Government are the Trade Actions Monitoring System, the so-called TAMS system that has been developed in USTR, and the system in the Commerce Department for monitoring foreign NTB's. These systems are of somewhat limited use in the sense that they can tell you something about the tracking of particular kinds of investigations that come up under the Trade Act in the case of the TAMS system, and something about foreign NTB's in the case of the Commerce Department. But, as far as we were able to tell, neither of these systems has the kind of economic input going into it systematically that one would like to have in order to make some sensible kind of quick analysis of the implications of different policy alternatives.

Further, and I think this is another limitation of existing systems, the TAMS system especially does not take into account the various kinds of administrative trade policy measures that lie outside the Trade Act. Thus, there are many actions being taken that are very important in terms of economic welfare that we don't really keep track of very well. From that standpoint, it's very difficult to have any kind of sensible evaluation of those administrative measures.

On the issue of bilateral relations, our main focus was to look at U.S.-Japanese relations especially and, to a lesser extent, at U.S.-Canadian relations. Gary Saxonhouse, who was our Japan person and specialized on this part of our Phase I effort, has argued that you really can't discuss U.S.-Japanese relations authoritatively because of the difficult information problems that exist. One thing that we were able to do in Phase I was to develop a computer-readable, microeconomic data base for Japan that has all kinds of information on nominal and real variables for something on the order of 3000 major Japanese companies. This has enabled us for the first time to develop a capability whereby it's possible to analyze some of the very difficult, contentious, and not well understood issues that come up in U.S.-Japanese relations and policies.

Saxonhouse has been working on certain aspects of high technology trade and Japan's trade in technology services. He has found, for example, that there has been a profound change in Japan's position with respect to tech-

nology trade. It was very unbalanced in terms of an import deficit in trade in technology services in the early seventies, but more recently there has been a shift so that Japan looks somewhat more like the other major industrialized countries.

There are many other issues that can be investigated using this micro-economic data base on Japan, which will enable analysts both within the government and elsewhere to enhance the understanding of the basis for the trade and investment relations that exist and, by implication, permit them to go on to policy analysis and development. I won't dwell on the work that we did on U.S. export controls and credit policies and the public opinion aspects of trade policy, because this involved mostly the development of research designs and some data collection.

Let me conclude with a couple of observations on what might be needed for future research. In part because Alan Deardorff and I have spent much time in recent years in developing the Michigan model, I want to put in a plug for computational modeling. Bob Lawrence mentioned some needs for this too.

In developing the Michigan model of world production and trade over the past several years, we've learned a great deal not only about trade theory but also about trade policy. We've also come to the realization of how important not only is good model construction but good data as well. The development of the Michigan model has focused our own efforts on trying to get comprehensive data that can be used across all of the 34 countries that we have in the model. Presently we're trying to do one of the things that Bob Lawrence mentioned, namely, to quantify nontariff barriers. This will then enable us to interact the NTB's with various other measures in the model in order to say something about their impact.

The advantage of a computational model is that it forces you to systematize your thinking. It forces you to go after comprehensive data, to answer the critics that don't like your model's theoretical underpinnings, and to make your model more flexible in terms of being able to handle a variety of policy changes. This work may then have an ultimate benefit in terms of the kinds of answers that it can give about the possible impacts of different policy alternatives. I've tried here to give you some flavor of the range of things that we've analyzed involving tariffs, domestic taxes and subsidies, exchange rates, and the like, and there are others that I haven't mentioned.

Finally, with respect to data, I think it's obvious that, since tariffs have now been reduced to relatively low levels, we need to focus our efforts on nontariff barriers in both goods and services. As I've mentioned, that's one of the highest priorities that we have had in our work.

In light of what we discovered about the present efforts going on within the U.S. Government for keeping track of and evaluating trade policies, it would be very useful if at some point some group could sit down and examine what's being done in order to coordinate more effectively the different efforts of the agencies. Such a group should try to bring together all of

the different kinds of data bases and data systems that exist so that we will be able to take a much closer look at some of the policy measures and how they impact on trade and economic welfare.

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DISCUSSION*

IRVING KRAVIS (University of Pennsylvania and National Bureau of Economic Research): I want to speak from the vantage point of someone who has been following the trade policies of the United States for many years, and who has just finished reading the preliminary colloquium papers.

The thing that strikes me is that the basic policy choices the United States has faced in all the administrations of the last 30 years is between taking the advantages of free trade and opting to protect particular interests for which the human costs, the political costs, and the economic costs may be too large to accept the impact of free trade on them. Every administration in principle has been for free trade, but the choice has often been made to give protection in response to the various costs that are involved in particular cases. I see no reason to believe that this practice of wavering back and forth between free trade and protectionism is going to change.

Now, none of the papers poses this choice in these stark terms. If you do accept that dichotomy in the responses of the United States, then a useful line of research suggests itself. It is to investigate the kinds of protection that should be given when policymakers decide for protection for political, economic, or humanitarian reasons. What are the effects and costs of various levels of protection? The dairy industry has been continuously protected through many decades. Is it a prosperous and cost-effective industry? The steel industry on the other hand has received sporadic protection over the last dozen years. What have been the effects on efficiency? On new investment? In this case, we heard today that the industry has raised wages substantially, and one of the big firms has bought an oil company.

I think a useful policy question would be what levels of protection are really necessary to achieve different specific objectives. That is, if you want a steel industry that is eventually going to become cost effective and competitive, will any level of protection produce one? And if so, what price is the necessary price in terms of protection and higher costs to steel users?

If feasible levels of protection won't produce an efficient industry but merely one needing protection indefinitely, the policymakers should be informed of this. The aim of the research would be to provide a realistic appraisal of the protection alternatives.

I think the association of the researchers with the people from the policy areas has had great benefit. That is, I see many practical, useful suggestions in all of these studies. It also has had its cost. The cost is that the researchers have tended to accept in many cases the points of departure of the policymakers. The policymakers' viewpoint tends to be mercantilist; it says we help the foreigner whenever we let him get access to our market, and we demand equal favors from him in terms of access to his market.

*Dr. Hufbauer was unable to be present for the discussion period.

Well, none of my colleagues who wrote these papers teach that in their universities. They teach quite the opposite, and I think the one consequence of that is an unquestioning acceptance of the fairness doctrine. I'm sorry Gary Hufbauer isn't here, because I think his term "level playing field" is a lovely expression for this idea.

I presume this idea of fairness in competition is taken over from domestic legislation where many laws have prescribed rules of fair competition. The origin of that legislation in the United States was the bad practices of firms which led to temporary depression of prices to drive out competitors, and then to predatory increase in prices. The original antitrust laws in the United States were designed to prevent that. Of course, this regulation was later taken over by the industries themselves. Now without much examination of the facts, these papers just assume that fairness is a good idea without any assessment of who benefits and what the costs to the society are.

Some years ago at a congressional hearing, an oil operator from western Pennsylvania complained that--you can find this in congressional hearings--competition was very unfair. He ran his oil well in the most efficient way possible and only a trickle came out, while some Arab running a very sloppy operation had the oil gushing out, and that was very unfair.

What is the criterion in fairness? As economists, it seems to me the whole doctrine of fairness should be examined in terms of its economic effects. Then if the policymakers say, well, we know the economic effects of fairness are costly, but we want fairness anyway, that's all right. It's not the duty of the economists to choose between "fairness" and efficiency but only to point out the difference between economic and non-economic objectives and to show what the economic costs are of the non-economic objectives carried out in different ways.

I feel that my colleagues, and I guess I have to include myself, have been a little bit seduced by the policy community into accepting their language. I think we could be more helpful to the policy community if we stuck to the business of economists and let them make the political compromises.

COLIN BRADFORD (Yale University): One of the things that has occurred to me over the two days' discussion, which I don't feel has received quite enough emphasis, is the role that domestic macroeconomic policy plays in both the international monetary and the trade areas. In both days, this has been an underlying theme and, I think, a basic determinant of policy, as Bob Lawrence has said. The frustration with stagflation has driven trade policy to a point where we are all very concerned with what the future direction might be. Similarly, the policy priority given to inflation in advanced countries, I think, may have driven the global financial system to a point of precariousness where, again, one could have some serious concerns.

I hesitate to bring this up because in a way it's a short-term issue. Nonetheless, I think precisely one of the fundamental changes that has

occurred in the world over the period that we've been looking at is the interdependence not only of trade and monetary flows, but the interdependence of domestic macroeconomic policies. The kinds of policies that are pursued in advanced countries obviously have a major effect on LDC's. It is less well known that, in the period since 1973, macroeconomic policies in the LDC's, which were both permitted by and allowed the recycling of the OPEC surplus, also had a major role globally in determining the relatively expansionary adjustment phase from 1973 to 1981 in world trade and growth.

In my own research and thinking about this, I would seriously question whether that pattern of moderate expansionary domestic policies, trade growth, and financial adjustment that occurred in the 1973 to 1981 period isn't all up for grabs right now. I think it is important to focus on what the future interactions of advanced-country macroeconomic policies and significant LDC macroeconomic policies might be over the future, and what their implications would be then for the main focus of your research, which is the trade and monetary system.

DR. LAWRENCE: I would like to agree very much with this line of argument. I think it was astounding in interviewing various policymakers how irrelevant they found macroeconomic policy. Yet I would venture to suggest that the choice of current macroeconomic policy, the particular mix that we have chosen to follow with tight monetary and an easy fiscal policy, is contributing more to the adjustment difficulties coming through international trade than probably any other policy that we've adopted over the last five or six years.

I would agree that this particular policy mix--which emphasizes in a sense a fighting of inflation through high interest rates, a large government deficit, which, in turn, to some degree spills over into a required current account deficit, which, in turn, implies an appreciation of the currency and a worsening in international competitive position--has undoubtedly been a major factor in the current environment. Indeed, from the research that I'm currently doing, it seems that we have not yet seen more than perhaps a third of the trade effects that are going to flow through the system as a consequence of this particular policy.

As we look out over the next two or three years, I would say that this feature will be a major one in the policymaking environment. It is important for policymakers, it seems to me, to bear in mind that what we're getting now is the acid demonstration of how powerful relative price effects are in moving international trade flows. What we're going to see now is how strong exchange rates are in determining the overall patterns in international competitiveness, and I think that unfortunately we will learn this lesson. But we should not discount the adjustment capacities in both directions in the current floating exchange rate system in which we find ourselves.

PROFESSOR STERN: The research I mentioned briefly in my presentation was essentially directed to parts of this issue that Bob Lawrence has just pointed out.

The real exchange movements that we've seen in recent years, according to our calculations, have had a really profound impact on production and employment across sectors in the major countries. In this work, the bottom line was that the problem really lies in the policy mix, which is a macro question and not necessarily one that has been dealt with in the context of trade policy.

The other issue concerns the very difficult conceptual problems that arise in trying to develop a theoretical model or, better yet, a computational model that can encompass macro and micro interactions. We are trying to do that with our model, but it's very hard to do, and I'm not sure that it's ever going to be done satisfactorily. But I think your point is very well taken, that there are a lot of things that are impacting trade that really have little, if anything, to do directly with trade policy.

PROFESSOR RICHARDSON: I'll underwrite what Bob Lawrence and Bob Stern have both said, as long as we understand that the effects of monetary policy on real exchange rates and real competitiveness are transitory. They're as transitory as the sluggishness in wage and price adjustment that pervades the economy. Three or four years, or however long that is, that's how long our monetary policy might affect our competitiveness. Otherwise, it doesn't have significant effects.

The part of it that always has some effects, and Colin didn't mention it nor did either of the Bobs, is its unpredictability. If monetary policy is alternatively expansionary, contractionary, stop, go, vote Mr. Reagan into office, vote Mr. Kennedy into office, then what happens is that you get real exchange rates oscillating dramatically. You never get to the position where real exchange rates settle down, and you're constantly confronting producers with what, as far as they're concerned, is an act of God. When the real exchange rates become very favorable, they may invest in more capacity, and then they're sorry three years later that they did. Or, when real exchanges rates become very unfavorable, they feel that they've been undercut by the government's monetary policy. They made a sensible investment three years ago, but it's not sensible now. The variability of monetary policy is a very important feature that affects both the long and short run, in contrast to the level of some monetary aggregate.

PROFESSOR BALDWIN: I certainly would support the remarks made about the worthiness of general equilibrium models. I think we need much more work on these models.

It's interesting how these models try to handle the problem of the role of the exchange rate. In a model like the one John Whalley has developed, the exchange rate plays no role at all. Furthermore, those with models such as this often tend to criticize models like Bob Stern's where the exchange rate does have real effects.

It's clear, as Dave Richardson said, that the appropriate role of the exchange rate in general equilibrium models depends upon whether one is

interested in the short run or long run. What we need is a better understanding of how monetary factors affect real variables as we move from an impact model to a short-run model, and finally to a long-run model.

BRUCE MALKIN (State Department): I was much impressed with the breadth of the issues presented by the panel this morning. However, I note a paradox in this colloquium on international trade competitiveness in that a panel of academic research people are guiding or attempting to influence governmental trade policy officials, whose decisions will impact directly on private sector businessmen, who actually do all the importing and exporting that is under consideration.

Yet, the basic issues of interest to those same businessmen, very few of whom I believe are sitting in this room this morning, have been described by the various chambers of commerce overseas to be those policies which are most directly controllable by the U.S. Government and most easily analyzable by the U.S. academic community, namely, the anti-export legislation and regulation which Professor Baldwin briefly touched upon in his presentation. Since he was the only one this morning who did so, I'll direct my question primarily to him.

The American businessman overseas until last year was the only one subject to Federal income tax on his overseas income other than the Philipinos and the Ethiopians. That anomaly has been somewhat corrected under the recent tax reforms. However, the other major concerns of American businessmen overseas focus on antitrust legislation and the ambiguity of joint bidding and joint operations overseas as the Justice Department and the SEC will view them; anti-boycott legislation, which disadvantages American businessmen who are competing against nationals of other countries where such legislation does not exist; Export-Import Bank funding and support, which, compared to the other national institutions of similar ilk, is ridiculous and ludicrous considering the size of our economy and our trade influence in the world; OPIC funding for feasibility, pre-feasibility, and travel funding of key government and private individuals who make major project decisions; and issues of this kind.

None of these issues seems to be of any great concern to the academic community, at least under this particular program. So I would ask Professor Baldwin if he and his group intend to follow up on these issues, which I think would be much more helpful to the government policymakers and ultimately to the people that they're supposed to be assisting, which is the American export business community.

PROFESSOR BALDWIN: Well, I think those are good points, and, in our Phase II proposal, I think we had studies on all of those topics. Furthermore in the NBER's American trade relations project that I'm involved in, we are already having a session in December 1982 where one of the papers is going to be on the Export-Import Bank and its financing activities. I am also very interested in getting studies done on the boycott/embargo issue. We also have studies proposed in the area of antitrust policies and their effects on trade.

DR. KRAUSE: I might say, Bruce, I'm glad you asked that question, because it gives me a chance to announce that my book that Brookings published last week, U.S. Economic Policy Toward the Association of Southeast Asian Nations: Meeting the Japanese Challenge, in fact, takes up some of these issues. To my knowledge this is the first time a measurement of the impact of foreign practices was attempted. I have discussed those issues, and I recommend the book to you.

MR. MALKIN: I'll look forward to receiving an autographed copy, sir.

PROFESSOR RICHARDSON: We should make clear that the trade relations project that Bob Baldwin mentioned is a part of the National Bureau's Phase II project.

MICHAEL AHO (Department of Labor): First of all, I'd like to say that, having myself been an overseer of research projects for a few years, the NSF has gotten every bit out of the \$75,000 that each of these folks received. They worked very hard, and they produced, I think, excellent reports.

I do want to push all of you on one more thing, though, while we can still use you at public expense. You have observed us in the policy research community. If you will, what is your opinion of our capabilities?

I heard comments this morning about strategic intervention or aggressive trade policy and about piecemeal policymaking by, I might say, turf-conscious agencies. Irving Kravis has very eloquently presented the import protection side. But we're also hearing much more today about strategic intervention to promote exports, which we know would have much different effects than import protection because of Lerner's symmetry theorem. What will the objective be?

The question I have, or the series of questions, is if the United States were to adopt a more aggressive trade policy, neomercantilist, whatever you're going to call it, does the U.S. Government have the resources to conduct such a policy? Is the United States Government organized well enough to conduct such a policy? Does the United States Government have the analytic capability to determine where the U.S. is most vulnerable and where we would have to compromise if we were negotiating with our trading rivals?

Now I realize that that puts you on the spot of maybe saying that government resources are inadequate, but I would answer "no" to those three questions. I would be interested in your comments.

PROFESSOR BALDWIN: I would say that the United States Government doesn't have that capability, and I think we would both agree that what we need is more funds for research, both in the government and in the academic community.

I'm more and more impressed that, when we study particular issues, we find out many of the policies we adopt just don't work in the way they were intended. You put on export restraints as was done in autos, and you get

an upgrading in unit value and diversion from a third country, so that the auto industry isn't helped very much. This fall or last spring, they came out with a study at the ITC tracing out how well some of the industries receiving protection actually fared after the protection. The past indicates that restrictive trade policies did not perform very well in terms of achieving their objectives.

Now, one might take another aspect of effectiveness and suggest that the U.S. should be more aggressive in dealing with other countries. I favor this, but it should always be done through the GATT, and by utilizing GATT panels. We will thereby build up a case law that will enable us to pursue vigorously our rights under the GATT without being accused of starting a trade war every time we object to the trade policies of some other country.

MAX KREININ (Michigan State University): I'd like to reinforce what's been said on a new example of fairness. The U.S. mushroom manufacturers are now claiming that they can't compete because of unfair low Chinese wage rates. I guess the complainers wanted the Chinese to pay American wage rates in China, and then they can compete. I would also like to reinforce this question of exchange rate which was discussed yesterday. There is also a need to see the extent to which there is deliberate exchange rate protection rather than just intermediate-run swings in the exchange rate.

But, the main reason why I rose to speak is to propose a rather cynical hypothesis of what may have been happening in the world in the past 40 years, without having the vaguest notion of whether it's true or not.

It would be useful to compare the level of protection in the world between a pre-Kennedy-Round year, say 1962, and a post-Tokyo-Round year, such as 1986.

We had tariffs in 1961 or 1962. Now we have a whole maze of NTB's. The hypothesis is that protection is fungible. We spend 40 years lowering tariffs, accomplishing a great deal. To what extent are all the new NTB's that are mushrooming, just like the mushroom manufacturer, all around us simply a reaction of firms to the fact that they no longer have tariff protection? They found something "better."

We know that many of those NTB's do more harm than the tariff; they are much more variable as between industries than the tariff. So my question is rather cynical. What have we accomplished in a 40 year process of trade liberalization if, by pressing down the tariff button, there is an emerging button in the form of numerous NTB's? To what extent is what we are seeing today a response to tariff reduction, because when industries no longer have tariff protection they discover something "better." The political forces also find something better for them.

One never hears the automobile industry and the UAW even mentioning tariff protection. They don't need it, they don't want it. The same applies to the steel industry. They want a "better," more "secure" form of protection, such as domestic content legislation, VER's, quotas, you name it.

Would we have been better off if they had 20 percent tariffs, which are visible as well as measurable?

I believe that this is an hypothesis worth exploring. It is also worth quantifying the nontariff barriers in 1986 and comparing the overall level of protection in the United States and other countries between 1962 and 1986.

PROFESSOR STERN: I think in part the studies that have been made about the use of tariffs and nontariff measures may answer both of the points that Max Kreinin brings up.

In some industries, particularly the more traditional industries, I think you find that relatively high tariffs and relatively high NTB's have gone together over the years. By the same token, some of the other more recent cases of NTB's would be closer to what Max has mentioned, namely, that we now have a number of industries in which we have relatively significant NTB's combined with relatively low tariffs. So the evidence really depends upon the time horizon and type of industry that you're looking at.

The other, more interesting point is that it's sometimes very misleading, I think, to talk about the new protectionism and the whole state of NTB's. When people do that, they frequently end up making an inventory or simply counting the number of NTB's that exist of all kinds. But there's very little analysis that has been done that can tell you just how important the impact of these NTB's may be. So I would reinforce Max's general point that it would be a very useful exercise to do at some point.

PROFESSOR RICHARDSON: The other thing to recognize is that many of these NTB's existed in the 1950's and 1960's too, and that we didn't notice them. The question is whether they have increased. Most commentators think they have. But we want to quantify the increment and not just the NTB itself.

DR. LAWRENCE: Also as a footnote, it's important to remember that we should not exaggerate the magnitudes of this drift. I think that the most compelling evidence is in actual trade performance. When we think that from 1973 to 1980--during the period when we all became aware of the new protectionism--both developing countries and Japan were able to increase their export volumes to developed countries at rates on the order of an average of ten percent a year. When we think that those kinds of steps could be accomplished in the current environment, I think we have to acknowledge that, while there are these worrying signs, the quantitative magnitudes of NTB's are not of the order that the general discussion and the lists would have you believe.

I would endorse the notion that we do need much harder evidence. There are some studies which have tried to tot up sectors which are covered by NTB's and account for the value of the trade in those sectors. In fact, I think those kinds of studies are all over the lot in their ultimate conclusions.

However, it all depends on what you believe. If you believe that an NTB on automobiles against Japan could, in fact, apply to all automobiles coming into the United States, you get a far different result than with the narrower assumption. I think what it boils down to is that there is definite scope for careful analytical work--both conceptual work as to how you're going to measure these effects and empirical work in determining the drift.

MALCOLM CHURCHILL (State Department): I would like to raise a question relating to developing countries in trade policy. This was touched on briefly in the earlier presentations in the context of the policy controversy or considerations relating to the issue of graduation. But, I would be interested in hearing the views of the panel on the underlying economics relating to the question of special and differential treatment.

As was mentioned, many of the developing countries themselves seem to be moving in the direction of more open trade regimes. My question is whether the panel has any views or has done sufficient work to have any judgments as to whether special and differential treatment for the developing countries has proven to be in the interest of the developing countries in terms of the original justifications that were put forward for the adoption of this policy.

PROFESSOR BALDWIN: I'll just mention one study. Andre Sapir studied the effect of the European system on certain African countries and found that it did have a significant effect in increasing trade. However, I don't think anyone is trying to find what it did to the total development rate in beneficiary countries. Sapir is also writing a paper on the impact of U.S. preferences.

KENT HUGHES (Joint Economic Committee): There is a school of thought that suggests that the relative success of the international economic system in the post World War II era depended, at least in part, on the tremendous political and economic strengths of the United States. That relative strength has waned. Does that in and of itself suggest we have to become more concerned with the economic strength of the United States, that we have to adopt what might be called an altruistic, neomercantilist policy? And, if so, does that suggest a different kind of playing field, a different set of GATT arrangements that would extend not only to tradeable goods, but to services, finance, and possibly even some kind of coordination of macro policy?

The second question I had was on industrial policy and industrial strategy. A number of speakers have walked up to the edge of that, criticized, in effect, the piecemeal nature of existing trade policy, made a call for coherence, but set no basis for what kind of coherence. Does the United States, in fact, need an industrial strategy? Of course, it's hard to answer that in the abstract. Perhaps it would be useful to take two or three pictures of the future--what our industrial economic posture will look like under X, Y, and Z set of assumptions or policies--and then derive from that what trade policy would look like.

PROFESSOR RICHARDSON: Those are good questions that I can't even begin to answer. I think they are among the foundational questions that will motivate us in the next few years.

On the matter of industrial strategy, the initiative lies first with the policy community. The policy community has to decide whether to have a strategy, and what it should be. Then the research community can plot out some scenarios of what industrial strategy would produce in the United States, given route A, route B, route C, or route D.

The first issue Kent raised is also an important issue: whether United States leadership has vanished, or whether it can still lead but in a somewhat different way, whether the playing field is tilted too far against us, and whether we tilt it back. Those are difficult and foundational questions for which economists don't have very many answers initially. But I will mention one parallel NBER project being conducted through non-NSF support. It's aimed at bringing together political analysts, political scientists, and economists to look at some of the questions that lie behind Kent's comments. What's the interaction between political leadership and economic strength? What's the interaction between military leadership and the stability of the international trading system? Are there some interfaces? There will be a conference and, I think, even a volume in the first years of the project that will aim at answering some of those questions.

PROFESSOR STERN: In the limited look that we took at questions of industrial policy, as I mentioned, we focused mostly on how it was manifested through the tax/subsidy arrangements. From that standpoint, we were surprised at how relatively much lower and more uniform Japanese tax rates were across sectors compared to the U.S. and U.K. Whether that's a conscious policy or not is difficult to determine. What that left us with was the idea that, yes, this kind of question is really important, and, to the extent that industrial policy is manifested through the tax/subsidy arrangements, it is something that is capable of being analyzed.

DR. LAWRENCE: On each of those points, I would agree completely with the characterization of the international system and its evolution towards a kind of a one-among-equals position for the United States, and I would also agree that this is what makes the situation so dangerous.

I guess where I don't agree is the consequence that we should now begin to behave like everyone else, that it would be altruistic if we now were to vigorously pursue our own interests.

I think this comes back to something that Mike Aho asked, and that is whether we have the analytical capabilities within the government in order to pursue a policy which would be more aggressive. In a sense, it seems to me that's almost the wrong way to ask the question, because what that asks is can we "nickel and dime," can we get tough on a whole lot of isolated issues?

It seems to me far more important for us to worry about the overall picture of the consequences of this policy--if we look at the world and we say we're now becoming more like the others, but we're not going to take a stand in order to promote free trade. Well, if we don't do it, no one else will.

It seems to me that the decline in our relative hegemony, if you will, is an argument which points to the need for a much different attitude on the part of the United States. It is an argument for a policy which tries to enforce free trade, rather than a policy which moves towards this "nickel and dime" without thinking through the major systemic impact of such a policy.

With respect to the second question of industrial policies and industrial strategy, I would concur that it is very important for us to have more research on this question. My review of the literature leads me to suspect that our current understanding of industrial policy is extremely superficial. I don't want to take a lot of time, but the thing that really struck me when I looked at that literature was that, in their appraisal of foreign industrial policies, very few people take account of the fact that we began from different relative positions.

If you look at this great success that is claimed for the variety of industrial policies abroad, most of them involve productivity and employment levels in industry that were achieved prior to 1973. That was a different world. If we're going to worry about industrial policy, what we have to ask is how well are those industrial policies working abroad currently. This failure to distinguish the fact that foreign economies were started from a lower base, that they had inherent momentum and convergence, that we were living in a different international system, permeates all of the literature. No one controls for that fact, yet it seems to me that all of the alleged success of numerous foreign industrial policies hinged on that. Now, I'm not saying that I have a superior answer with respect to where we should be going, but I would caution as to the current state of that research.

A second small point came as a little surprise to me when I was working on my book for Brookings on industrial policy. If you look at the behavior of American industrial employment, for instance, since 1973, some of you may be surprised to know that industrial employment grew more rapidly in the U.S. than in any other developed country in the world. If you ask what happened to employment in American industries compared with Japanese, you will find that in almost every industry, and I include steel here, Japanese employment grew less rapidly than in the United States.

The point is, and it should become obvious, that where you have low productivity growth, you can increase employment. For those who are concerned about deindustrialization, I think studies have to focus on what's been happening since 1973. I expect that the waters are much more muddy when you adopt that focus, and, therefore, the desirable caution is much greater.

ELEANOR HADLEY (formerly of the General Accounting Office): Coming back from four months in Japan, I would certainly underscore the effects of exchange rate misalignment on trade flows. To have exchange rates slighted, as happens with some of the approaches, makes for a serious omission.

In addition to currency misalignment I would throw out just a few other items for consideration. On R&D, I believe we tend to focus on innovation alone rather than innovation and diffusion. In my own work on the American economy, it seems to me that our basic problem lies with diffusion. Continuous casting is a dramatic example of where something was invented in this country, and now, some years later, we are the industrial country with the smallest proportion of output by this cost-efficient means. Japan, as it turns out, is the highest.

On trade in services, there is such widespread confusion between services in the GNP accounts and services in the international accounts that extensive public education is indicated. We believe services to be one of our international strengths, whereas, of course, 60 percent of our international service account is dividends on overseas investment.

Subsidies are a contentious issue in international trade. A thought that I have been considering is whether countries might be willing to entertain some sort of a GATT code on acceptable depreciation practices. Certainly when one looks at Japan's stimulus measures, depreciation has been one of the key devices. It seems to me that such a code would perhaps resolve a number of problems.

One of the discussants referred to antitrust as a trade handicap, yet it may be that it is the lack of competitiveness in this economy which is one of our problems. We so frequently seem to suggest antitrust is all negative.

One additional point. I was struck with the comment in the newspaper a day or two ago from Mr. Iacocca, who said that now that Chrysler had sold its profitable tank division, Chrysler is making more money on money than it ever made producing tanks. When business makes more money from money than from production, it does not bode well for the international competitiveness of the economy. Thank you.

DR. KITTI: With that, I think it is time to end our discussion. I want to thank you all for attending, and I especially want to thank our speakers for their excellent presentations. Those of you on our list of attendees will be sent copies of the papers and proceedings when they are published. Thank you very much.

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